Delaval, Jan

From:

Sent: To:

DeCloux, Amy Tuesday, October 23, 2001 1:20 PM Delaval, Jan 09/625,963

Subject:

Hi cheerful Jan:

Sorry I forgot to send you this search request with the big batch:

Could you please do an open and closed search of the small amino acid sequences of SEQ ID NO:1, SEQ ID NO:2 and SEQ ID NO:3????

Thank you Jan!

Amy

Amy DeCloux Art Unit 1644 CM1 9B09 Office CM1 9C12 Mail (703) 306-5821

> Point of Contact: Jan Delaval Librarian-Physical Sciences CM1 1E01 Tel: 308-4498

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SEARCH REQUEST FORM

53525

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| Requestor's | Serial | |
| Name: | Number: | |
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| Date: Pl | none: | Art Unit: |
| Search Topic: Please write a detailed statement of search topic. Dest that may have a special meaning. Give examples or re a copy of the sequence. You may include a copy of | levant citations, authors keywords, | etc., if known For sequences, please attach |
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| Date completed: | Search Site | Vendors |
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C; Species: Mus musculus (house mouse)
C; Date: 22-Nov-1993 #sequence_revision 08-Nov-1996 #text_change 16-Feb-1997
C; Accession: S17463
R; Hayes, J.D.; Kerr, L.A.; Peacock, S.D.; Cronshaw, A.D.; McLellan, L.I.
Biochem. J. 277, 501-512, 1991
A; Title: Hepatic glutathione S-transferases in mice fed on a diet containing addent elution of the glutathione-sepharose affinity matrix.
A; Reference number: S16933; MUID:91315425
A; Accession: S17463
A; Mclecule type: protein
A; Residues: 1-38; 39-64; 65-85 < HAY>
C; Superfamily: glutathione transferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: GDB:120378; OMIM:600354; OMIM:253300
A;Map position: 5q12.2-5q13
C;Keywords: apoptosis; APP; glycoprotein; nucleotide binding; P-loo
F;94-110/Domain: transmembrane #status predicted <TMM1>
F;470-497/Region: nucleotide-binding motif A (P-loop)
F;479-496/Domain: transmembrane #status predicted
F;476/Binding site: ATP (Lys) #status predicted
F;618,632,823,923,1035/Binding site: carbohydrate (Asn) (covalent)
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F;I-854/Product: unc-33 protein (long form) #status predicted <MATI>F;176-854/Product: unc-33 protein (intermediate form) #status predicter
F;332-854/Product: unc-33 protein (short form) #status predicted <MATI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Roy, N.; Mahadevan, M.S.; McLean, M.; Shutler, G.; Yaraghi, Z.; Farahani, R.; Bair d, T.O.; de Jong, P.J.; Surh, L.; Ikeda, J.E.; Korneluk, R.G.; MacKenzie, A. Cell 80, 167-178, 195
A;Title: The gene for neuronal apoptosis inhibitory protein is partially deleted in A;Reference number: A55478; MUID:95112344
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A; Molecule type: mRNA
A; Residues: 1-854 <LIW2>
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A; Residues: 1-1232 < ROY>
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C;Species: Homo sapiens (man)
C;Date: 05-Jan-1996 *sequence_revision 05-Jan-1996 *text_change 02-Feb-2001
C;Accession: A55478
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glitathione transferase (EC 2.5.1.18) class mu chain Yb2 - mouse (fragments) (;Species: Mus musculus (house mouse) (;)ate: 22-Nov-1993 #sequence_revision 08-Nov-1996 #text_change 16-Feb-1997 (;)ate: 22-Nov-1996 #text_change 16-Feb-1997 (;)ate:
glutathione transferase (EC 2.5.1.18) b - guinea pig N;Alternate names: glutathione S-alkyltransferase; glutathione S-aryltransferase; cavia porcellus (guinea pig) C;Species: Cavia porcellus (guinea pig) C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 18-Jun-1993 C;Accession: JX0095 R;Kamei, K.; Oshino, R.; Hara, S.
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A; Residues: 1-115 <LIU>
C; Superfamily: glutathione transferase
C; Keywords: transferase
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C; Species: Rattus norvegicus (Norway rat)
C; Date: 20-May-1994 #sequence_revision 10-Nov-1995 #text_change
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A;Residues: 1-65;66-128:129-135;136-142 <HAY>
C;Superfamily: glutathione transferase
C;Keywords: dimer; transferase
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R;Liu, L.F.; Hong, J.L.; Tsai, S.P.; Hsieh,
Biochem. J. 296, 189-197, 1993
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.9;
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1.9;
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                                                                                                                                         glutathione S-aryltransferase;
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A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, A;Reference number: A82950; MUID:20437337 A;Accession: F83495
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                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: DNA
A; Residues: 1-205 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ary Stover, C.K.; Pham, X.Q.; adman, S.; Yuan, Y.; Brody, J. Lory, S.; Olson, M.V. Nature 406, 959-964, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Pseudomonas aeruginosa
C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000
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A;Experimental source: strain Nichols
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Title: Complete genome sequence of Treponema pallidum, A;Reference number: A71250; MUID:98332770 A;Accession: C71375
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A; Residues: 1-203 <COL>
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                                                                                                                                                                                        Similarity 6; Conser
    otein AAF98431.1 [imported] -
                                                                                                        PYI 82
                                                                                                                                                                                          Conservative
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75.0%;
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85.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey,
L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig,
                                                                                                                                                                                    Score 38; DB 2
Pred. No. 5.4;
1; Mismatches
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Arabidopsis thaliana
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C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 31-Mar-2001
C;Accession: E86408
R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O. Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; D. Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; D. ansen, N.E.; Hughes, B.; Huizar, L.
Nature 408, 816-6820, 2000
A;Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E. C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, S.X.; Liu, S.X.; Liuros, J.S.; Maiti, R.; Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A;Authors: Salzberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Reference number: A86141; MUID:21016719
A. Raccession: E86408
A. Recession: E86408
                                                                                                             R;Li, W.; Herman, R.K.; Shaw, J.E. Genetics 132, 675-689, 1992
A;Title: Analysis of the Caenorhab
                                                                                                                                                                                C;Species: Caenorhabditis elegans
C;Date: 07-Apr-1994 #sequence_revision 02-Jun-1994
C;Accession: S33558; S33559; S24643; S24644
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S33558
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A;Molecule type: DNA
A;Residus: 1-466 <BLU>
C;Superfamily: interferon-induced 56K protein
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$4,22,10
ISG-54K protein - Chinese hamster
                       A; Molecule type: DNA
A; Residues: 1-854 <LIW1>
                                                                 A;Reference number: S33558; MUID:93106371
A;Accession: S33558
                                                                                                                                                                                                                                                   unc-33 protein - Caenorhabditis elegans
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A; Reference number:
A; Accession: $42210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Bluyssen, H.A.R.; Vlietstra, R.J.; van der Made, Eur. J. Biochem. 220, 395-402, 1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species: Cricetulus griseus (Chinese hamster)
C;Date: 06-Feb-1995 #sequence_revision 06-Feb-1995 #text_change 07-May-1999
A;Cross-references: EMBL:Z14148; NID:g6899; PIDN:CAA78520.1; PID:g6900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Title: The interferon-stimulated gene 54 K promoter contains two adjacent functiona
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Accession:
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A; Residues: 1-581 <S'
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Best Local
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Best Local
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                                                                                                               Caenorhabditis elegans
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66.7%;
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87.5%;
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A; Molecule type: mRNA
A; Molecule type: mRNA
A; Residues: 85-249,267-364, Fr, 366-386, Tr, 388-407,411-449 <CAL>
A; Residues: 85-249,267-364, Fr, 366-386; PIDN.AAA36810.1; PID:9340382
A; Cross references: GB.M30393; NID:9340381; PIDN.AAA36810.1; PID:9340382
A; Cross references: GB.M30393; NID:9340381; PiDN.AAA36810.1; PID:9340382
A; Cross references: GB.M30393; NID:93458704
A; Reference number: A56411; MUID:93052142
A; Reference number: A56411; MUID:93052142
A; Cross reference number: A56411; MUID:93052142
A; Title: Wilms' tumor gene, WT1, mRNA is down-regulated during induction of er A; Reference number: I38504; MUID:94368704
A; Accession: I38504
                                                                                                                                                                                                                                                                                                                                    A:Status: preliminary; translated from GB/EMBL/DDBJ
A:Molecule type: DNA
A:Molecule type: DNA
A:Residues: 1-18 < PHE>
A:Cross references: EMBL:U06486; NID:9473563; PIDN:AAA62865.1;
R:Pelletier, J.; Bruening, W.; Kashtan, C.E.; Mauer, S.M.; Mani
Cell 67, 437-447, 1991
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A; Residues: 'SRQRPHPGALRNPTACPLPHFPPPSLPPTHSPTHPPRAGTAAQAPGPRRILAAILDFLLLQDPASTCVPEPASQHT
A; Cross-references: EMBL:X51630; NID:g37977; PIDN:CAA35956.1; PID:g37978
R; Call, K.M.; Glaser, T.; Ito, C.Y.; Buckler, A.J.; Pelletier, J.; Haber, D.A.; Rose, E.
Cell 60, 509-520, 1990
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                                                                                                                                       A; Note: mutant form
R; Hamilton, T.B.; Barilla, K.C.; Romaniuk, P.J.
Nucleic Acids Res. 23, 277-284, 1995
A; Title: High affinity binding sites for the Wilms'
A; Reference number: I58315; MUID:95166649
A; Accession: I58315
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Genomics 12, 807-813, 1992
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                                                                                                               Status . translated from GB/EMBL/DDBJ
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'МGHHHHHHHHHHSSGHIEGRHM',301-364,'F',366-386,'T',388-407,411-449
rences: GB:S75264; NID:g896246; PIDN:AAB33443.1; PID:g896247
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A;Gene: GDB:WT1
A;Cross-references: GDB:120496; OMIM:194070
A;Map position: llp13-llp13
A;Introns: 148/1; 189/1; 223/2; 249/2; 266/2; 298/3; 349/1; 379/1; 410/1
A;Introns: 148/1; 189/1; 223/2; 249/2; 266/2; 298/3; 349/1; 379/1; 410/1
A;Introns: 148/1; 189/1; 223/2; 249/2; 266/2; 298/3; 349/1; 379/1; 410/1
A;Introns: 148/1; 189/1; 223/2; 249/2; 266/2; 298/3; 349/1; 379/1; 410/1
A;Introns: 148/1; 189/1; 223/2; 249/2; 266/2; 298/3; 349/1; 379/1; 410/1
A;Introns: 148/1; 189/1; 223/2; 249/2; 266/2; 298/3; 349/1; 379/1; 410/1
A;Introns: 148/1; 189/1; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/2; 279/
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A;Title: Isolation, characterization, and expression of tak;Reference number: A39692; MUID:91141522
A;Accession: A39692
                                                                                                                                                                                                                                    A;Authors: Gnehm, C.L.; McDonald, L.A.; Small, K.V.; A;Title: Whole-genome random sequencing and assembly A;Reference number: A64000; MUID:95350630 A;Accession: G64144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hypothetical protein HI0177 - Haemophilus influenzae (strain Rd KW20)
C;Species: Haemophilus influenzae
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 28-Jul-2000
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C;Species: Mus musculus (house mouse)
C;Date: 30-Dec-1991 #sequence_revision 3
C;Accession: A39692
A;Cross-references: GB:U32703; GB:L42023; NID:g1573133; A;Note: best homolog was a hypothetical protein from Ps C;Superfamily: conserved hypothetical protein HI0177
                                                                                                                                                                                                                                                                                                                                                                                              ; Gocayne, J.D.; Scott, J.; S., D.M.; Brandon, R.C.; Fine, Science 269, 496-512, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R; Fleischmann, R.D.; Adams,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: mRNA
A; Residues: 1-449 <BUC>
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                                                                                                                        A; Residues: 1-262 <TIGR>
                                                                                                                                                         A; Molecule type: DNA
                                                                                                                                                                                                       A; Status: nucleic acid sequence not shown;
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Best Local Similarity
9; Conser
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Matches 9
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ilarity 100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                   M.D.; White, O.; Clayton, R.A.; Kirkness, E.F.; Kerlavage Shirley, R.; Liu, L.I.; Glodek, A.; Kelley, J.M.; Weidman, L.D.; Fritchman, J.L.; Fuhrmann, J.L.; Geoghagen, N.S.M.
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0; Mismatches
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of Haemophilus
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Maximum Match 100%
Listing first 45 summaries
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1 RMFPNAPYL 9
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PIR_68:*
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unc-33 protein - C
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C; Genetics: A; Gene: wt1

A; Gene:

A;Molecule type: mRNA
A;Residues: 1-40 <SEM>
A;Cross-references: DDBJ;D82051
C;Comment: This protein is involved in kidney morphogenesis

47, 12.6

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ALIGNMENTS

wilms' tumor suppressor protein - African clawed frog
N;Alternate names: WT1
C;Species: Xenopus laevis (African clawed frog)
C;Date: 31-Jan-1997 #sequence_revision 31-Jan-1997 #text_change 31-Jan-1997
C;Accession: JC5046
R;Semba, K; Saito-Ueno, R; Takayama, G; Kondo, M.
Gene 175, 167-172,(1996)
A;Title: cDNA cloning-and its pronephros-specific expression of the Wilms' tumor supp
A;Contents: testis
A;Contents: testis
A;Accession: JC5046; MUID:97074667
A;Accession: JC5046

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Wilms' tumor protein WT1 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 10-May-1996
C;Accession: S33926
                                                                                                                                                                                                             R;Sharma, P.M.; Yang, X.; Bowman, M.; Roberts, V.; Sukumar, S. Cancer Res. 52, 6407-6412, 192 A;Title: Nolecular cloning of rat Wilms' tumor complementary DNA and a study of messe A;Reference number: S33926; MUID:93046155
                                                                        A;Gene: WT1
C;Keywords:
                                                                                                                        A;Molecule type: mRNA
A;Residues: 1-448 <SHA>
A;Cross-references: EMBL:X69716
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Matches 9; Conserv
Query Match
Best Local Similarity
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 Score 51;
Pred. No.
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DB 2;
0.042;
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                  Length 448,
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 317-276-3885
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 1996 amino acids
TYPE: amino acid
TOPOLOGY: unknown
MOLECULE TYPE: peptide
US-08-804-198-3
Search completed: October 23, 2001, 13:21:33 Job time: 86 sec
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                                                                                                                                                                                                                                                                      : NAME/KEY: ACT_SITE
: LOCATION: (15)
: OTHER INFORMATION: phospholyated serine
: NAME/KEY: ACT_SITE
: LOCATION: (17)..(19)
US-09-269-220-1
                                                                                                                                                                                                                                                                                                                                                                                                   : SOFTWARE: PatentIn Ver
SEQ ID NO 1
: LENGTH: 209
TYPE: PRT
: ORGANIEM: Bos taurus
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US-09-269-220-1
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Best Local Similarity bo...
""" hes 5; Conservative
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APPLICANT: HAN, SANG K
APPLICANT: SHIN, YOO C
TITLE OF INVENTION: CASEIN AND PROCESS FOR THE PREPARATION THEREOF
FILE REFERENCE: 1423.1001/MJH
CURRENT APPLICATION NUMBER: US/09/269,220
CURRENT FILING DATE: 1999-03-23
PRIOR APPLICATION NUMBER: KR 1996-43482
PRIOR FILING DATE: 1996-03-23
PRIOR FILING DATE: 1997-09-23
PRIOR FILING DATE: 1997-09-23
NUMBER OF SEQ ID NOS: 7
SCRUBBER OF SEQ ID NOS: 7
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Best Local Similarity 71.4
Matches 5; Conservative
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1281 LPFPGPV 1287
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ATTORNEY/AGENT INFORMATION:
NAME: CANTRELL, PAUL R.
REGISTRATION NUMBER: 36,470
REFERENCE/DOCKET NUMBER: P9113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/804,198
FILING DATE:
                                                                                              4 PFPGPL 9
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61 PFPGPI 66
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Pred. No. 5.1e+02;
2; Mismatches 0; Indels
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RESULT 13
US-08-804-227C-9
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                                                                                                                                                                                                                                                                                                         TELEFAX: (619) 535-89
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                     NAME: Campbell, Cathryn A.
REGISTRATION NUMBER: 31,815
REFERENCE/DOCKET NUMBER: P-LA
TELECOMMUNICATION INFORMATION:
TELEPHONE: (619) 535-9001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US 08/317,522 FILING DATE: 04-OCT-1994 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                          MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 12-MAY-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Fukuda, Michiko N. TITLE OF INVENTION: Trophinin TITLE OF INVENTION: Proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                               303 HLMPSPAPV 311
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                                                                                                                             Local Similarity hes 6; Conserv
                                                                                                                                                                                                                                           TYPE: amino acid
TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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STATE: California
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nes 6; Conserv
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                                                                                             1 HLMPFPGPL 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/808,599A
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4370 La Jolla Village Drive, Suite 700
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66.7%;
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Pred. No. 1.4e+02;
""" matches 2;
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Pred. No. 1.4e+02;
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; MOLECULE TYPE:
US-08-804-227C-9
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US-08-804-198-3
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Best Local Similarity
Thes 5; Conserve
                                                                                                                                                                                                                                                                                                                                                 Sequence 3, Application Patent No. 5945320 GENERAL INFORMATION:
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SEQUENCE CHARACTERISTICS:
LENGTH: 1996 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
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1281 LPFPGPV 1287
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM COmpatible
                                                     COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                      APPLICANT: Rao, Nagaraja R.
APPLICANT: Richardson, Mark A.
APPLICANT: Rosteck, Paul R., Jr.
TITLE OF INVENTION: PLATENOLIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
TELEPHONE: 317-276-2459
NFORMATION FOR SEQ ID NO: 9:
                                                                                                                                                                                                  NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                 APPLICANT: APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Plant, Thomas, G.
REGISTRATION NUMBER: 35,784
REFERENCE/DOCKET NUMBER: X-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: ASCI(DOS) Text only CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: THOMAS G. PLANT 1501
STREET: LILLY CORPORATE CENTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Kuhstoss, Stuart A.
APPLICANT: Rosteck, Paul R., Jr.
APPLICANT: Sutton, Kimberly L.
TITLE OF INVENTION: POLYKETIDE SYNTHASE GENES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
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COMPUTER: Macintosh
OPERATING SYSTEM: Macintosh
SOFTWARE: Microsoft Word 5.1
                                                                                                                               CITY: INDIANAPOLIS STATE: IN
                                                                                                                                                              ADDRESSEE:
STREET: LI
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CITY: INDIANAPOLIS
STATE: IN
                                                                                       ZIP: 46285
                                                                                                            COUNTRY:
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                                                                                                                                                                  E: PAUL R. CANTRELL 1138
LILLY CORPORATE CENTER
                                                                                                              USA
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                                                                                                                                                                                                                                                                                                                 Burgett, Stanley G. Kuhstoss, Stuart A.
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Pred. No. 5.1e+02;
Pred. No. 5.1e+02;
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US-08-751-965-5

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JS-08-,...
Sequence 5, App...
Patent No. 5880267
Patent INFORMATION:
Fukuda,
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US-08-738-975-5
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Best Local :
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APPLICATION NUMBER: US 08/439,

FILING DATE: 12-MAY-1995

ATTORNEY/AGENT INFORMATION:

NAME: Campbell, Cathryn A.

REGISTRATION NUMBER: 31,815
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COMPUTER READABLE FORM:
MADJUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                            APPLICANT: Fukuda, Michiko N.
TITLE OF INVENTION: Trophinin and Trophinin-Assisting
TITLE OF INVENTION: Proteins
NUMBER OF SEQUENCES: 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: P-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (619) 535-9001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
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LENGTH: 778 amino acid
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                                                                                                                                                                             CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity tes 6; Conserv
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STATE: California
                                                                                                             STATE:
                                                                                                                                           STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
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                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY:
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                                                                        92122
                                                                                                                          San Diego
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                                                                                                        California
                                                                                                                                         )E: Campbell and Flores
4370 La Jolla Village Drive, Suite 700
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66.7%;
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Pred. No.
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RESULT 11
US-08-728-626-5
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Patent No. 5910451
GENERAL INFORMATION:
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TELEFAX: (619) 535-894
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 778 amino acid
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                                                                                                                             APPLICATION NUMBER: US 08/439,818
FILLING DATE: 12-MAY-1995
APPLICATION NUMBER: US 08/317,522
FILLING DATE: 04-0CT-1994
ATTORNEY/AGENT INFORMATION:
NAME: Campball, Cathryn A.
NAME: Campball, Cathryn A.
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FILING DATE: 05-Dec-1995
ATTORNEY/AGENT INFORMATION:
NAME: Campbell, Cathryn A.
REGISTRATION NUMBER: 31,815
                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Fukuda, Michiko N.
TITLE OF INVENTION: Trophinin and Trophinin-Assisting
TITLE OF INVENTION: Proteins
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LENGTH: 778 amino acids
TYPE: amino acid
                                                                       TELECOMMUNICATION INFORMATION: TELEPHONE: (619) 535-9001
                                                                                                                                                                                                                                              CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                      SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
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TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                                                                                                                               MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                       REGISTRATION NUMBER: 31,815
REFERENCE/DOCKET NUMBER: P-LA
                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: FILING DATE:
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nes 6; Conserv
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                                                                    TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 92122
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE:
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4370 La Jolla Village Drive, Suite
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                                                       535-8949
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
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GENERAL INFORMATION:
APPLICANT: NATORI, Shunji
TITLE OF INVENTION: NEW PROTEASE
FILE REFERENCE: 32290-144749
CURRENT FILING DATE: 2000-03-06
CURRENT FILING DATE: 2000-03-06
EARLIER APPLICATION NUMBER: US/09/515,039
CURRENT FILING DATE: 1997-11-18
NUMBER OF SEQ ID NOS: 101
SOFTWARE: PATENTIN PS. 101
SEQ ID NO 1
LENGTH: 550
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Best Local Similarity
Graphes 6; Conserve
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US-09-515-039-1
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US-09-515-039-1
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Patent No. 5599918
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Best Local Similarity
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APPLICATION NUMBER: US/08/317,522A FILING DATE: 04-CCT-1994 CLASSIFICATION: 536 ATTORNEY/AGENT INFORMATION: NAME: Campbell, Cathryn A. REGISTRATION NUMBER: 31,815 REFERENCE/DOCKET NUMBER: P-LA 9991 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS_MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Fukuda, Michiko N.
TITLE OF INVENTION: Trophinin and Trophinin-Assisting
TITLE OF INVENTION: Proteins
                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
ADDRESSEE: Campbell
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CITY: San Diego
STATE: California
                                                                                                                                                                                                                                                          ZIP: 92122
                                                                                                                                                                                                                                                                       COUNTRY:
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4370 La Jolla Village Drive, Suite 700
                                                                                                                                                                                                                                                                           USA
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                                                                                                                                                                 Version #1.25
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67;
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67;
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US-08-439-818A-5
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                                                            Matches
                                                                         Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 63.8%;
Best Local Similarity 66.7%;
Matches 6; Conservative
                                                                                                                                                                                                            TELEPHONE: (619) 535-9001
TELEFAX: (619) 535-8949
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                      CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/3:
APPLICATION OF OUT-1994
ATTORNEY/AGENT INFORMATION:
NAME: Campbell, Cathryn A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION: APPLICANT: Fukuda,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEPHONE: (619) 535-9001
TELEFAX: (619) 535-8949
INFORMATION FOR SEQ ID NO: 5:
                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 31,815
REFERENCE/DOCKET NUMBER: P-I
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/439,818A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: TRO
                                                                                                                                                     TOPOLOGY: 1i
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LENGTH: 732 amino acids
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303 HLMPSPAPV 311
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STREET: 4370 La Jolla Village Drive, Suite 700
CITY: San Diego
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                            1 HLMPFPGPL 9
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                                                            Conservative
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                                                                                                                                                                       linear
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                                                                                                                                                       protein
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                                                                          63.8%;
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22
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    Mismatches

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Pred. No. 1.4e+02;
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Pred. No. 1.3e+02;
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RESULT 4
US-08-702=598-2
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; TYPE: PRT
; ORGANISM: Sarcophaga peregrina
US-09-515-039-60
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; ORGANISM: Sarcophaga peregrina
US-09-120-365-60
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 Sequence 2,
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LENGTH: 340
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Patent No. 6103514
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Matches 7; Conserv
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CURRENT FILING DATE: 2000-03-06
EARLIER APPLICATION NUMBER: JP 9-333 474
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TITLE OF INVENTION: NEW PROTEASE
FILE REFERENCE: 32290-144749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EARLIER FILING DATE: 1997-11-18
NUMBER OF SEQ ID NOS: 101
SOFTWARE: PatentIn Ver. 2.0
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TITLE OF INVENTION: NEW PROTEASE
FILE REFERENCE: 32290-144749
                                                                                                                                                                                                                                                                                          EARLIER FILING DATE: 1997-11-18
NUMBER OF SEQ ID NOS: 101
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                                                                                                                                Local Similarity
les 6; Conserv
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ses 6; Conserv
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Application US/08702598
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100.0%;
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70.0%;
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Pred. No.
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42;
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GENERAL INFORMATION:
APPLICANT: Natori, Shunji
TITLE OF INVENTION: NEW PROTEASE
FILE REFERENCE: 32290-144749
CURRENT APPLICATION NUMBER: US/09/120,365
CURRENT FILING DATE: 1998-07-22
EARLIER APPLICATION NUMBER: UP 9-333 474
EARLIER FILING DATE: 1997-11-18
NUMBER OF SEQ ID NOS: 101
                                                                                                                                                                                                                                                                                                                            ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;; TYPE: amino acid;
;; TOPOLOGY: linear
;; MOLECULE TYPE: protein
US-08-702-598-2
                                                                                                                                                                                                                                                      US-09-120-365-1
SEQ ID NO 1
LENGTH: 550
                                                                                                                                                                                                                Sequence 1, Application US/09120365
Patent No. 6103514
                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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Best Local Similarity
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APPLICANT: Camara, Bilal
APPLICANT: Kuntz, Marcel
                                   SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA: APPLICATION NUMBER: |
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TITLE OF INVENTION: Therefrom NUMBER OF SEQUENCES: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 23-MAR-1994
ATTORNEY/AGENT INFORMATION:
NAME: Calvetti, Freceric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: GB 9403943.5 FILING DATE: 01-MAR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Calvetti, Frecerick F. REGISTRATION NUMBER: 28,557
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1100 New York Avenue,
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A01H 5/00
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77.8%;
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Pred. No.
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Title:
Perfect score:
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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seq length: 2000000000
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                                                                                                                                                                                                                                                                                                                                                                                                 Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Issued_Patents_AA:*
1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/DCTUS_COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/Dackfiles1.pep:*
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58
1 HLMPFPGPLL 10
     October 23, 2001, 13:21:32; Search time 23.71 Seconds (without alignments) 8.684 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  197339 seqs, 20590346 residues
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                   Length
       DВ
  US-08-905-223-378
US-09-515-039-60
US-09-515-039-60
US-09-702-598-2
US-09-715-039-1
US-08-317-522A-5
US-08-317-522A-5
US-08-318-55-5
US-08-38-975-5
US-08-728-626-5
US-08-804-227C-9
US-08-804-227C-9
US-08-804-227C-9
US-08-804-227C-9
US-08-804-227C-9
US-08-804-227C-9
US-08-804-227C-9
US-08-804-227C-9
US-09-269-220-1
US-09-269-220-1
US-09-269-220-1
US-09-146-221-6
US-09-146-221-8
US-09-146-231-1
US-09-147-039-11
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US-08-727-034-7
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Sequence 378, App
Sequence 60, Appli
Sequence 1, Appli
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Sequence 5, Appli
Sequence 6, Appli
Sequence 1, Appli
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Sequence 8, Appli
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| RESULT 1 US-08-905-223-378 US-08-905-223-378 Sequence 378, Application | 28 29 31 31 32 31 32 33 33 34 34 34 35 36 37 36 37 37 38 37 37 38 38 38 38 38 38 38 38 38 38 38 38 38 |
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| Ilication US/08905223 9 ION: Jean-Baptiste D. elert, Aymeric Croix, Bruno FION: 5' ESTS FOR SECRETED PROTEINS ENCES: 503 ADDRESS: KRODSDE, Martens, Olson & Bear Mest Broadway iego fornia Floppy Disk Floppy Disk Floppy Disk BLE FORM: Floppy Disk BM PC compatible STEM: Win95 Ord ATION DATA: NUMBER: US/08/905,223 NN: 536 INFORMATION: 1Sen, Ned A. NUMBER: 29,655 CKET NUMBER: CNET NUMBER: (619) 235-8550 ION INFORMATION: (619) 235-0176 19) 235-0176 19) 235-0176 19) 235-0176 19) 235-0176 19) 235-0176 19) 335-017 | 9 2 US-08-224-917-8 9 2 US-08-914-853-8 9 5 PCT-US95-03934A-8 78 1 US-08-487-359-5 192 3 US-08-360-107A-117 192 3 US-08-360-107A-117 192 3 US-08-360-107A-117 192 3 US-08-360-107A-117 192 3 US-08-484-223B-107 192 3 US-08-485-551A-107 193 1 US-08-313-1818-18 335 1 US-08-347-826A-1 389 2 US-08-485-449-2 |
| | Sequence 8, Appli Sequence 8, Appli Sequence 7, Appli Sequence 5, Appli Sequence 107, App Sequence 107, Appli Sequence 18, Appli Sequence 18, Appli Sequence 18, Appli Sequence 18, Appli Sequence 17, Appli Sequence 2, Appli |

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COMMER INFORMATION: Xaa equals any of the naturally occurring L-amino acids US-09-758-462-903

Query Match
Best Local Similarity 100.0%; Pred. No. 99;
Matches 6; Conservative 0; Hismatches 0; Indels 0; Gaps 0;

Oy 4 PPRGPL 9

Db 22 PPRGPL 27

Search completed: October 23, 2001, 13:22:51

Job time: 164 sec
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US-60-312-544-6518; Sequence 6518, Application US/60312544
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Best Local Similarity
7; Conserv
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                                                                                                                                                                                         GENERAL INFORMATION:
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                                                                                   APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
APPLICANT: Stein, Joshua
TITLE OF INVENTION: CONA SEQUENCES AND USES FOR PLANT IMPROVEMENT
FILE REFERENCE: 38-10-726)A
CURRENT APPLICATION NUMBER: US/60/312,544
CURRENT FILING DATE: 2001-8-15
NUMBER OF SEQ ID NOS: 10730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: ALEXANDROV, Nickolai
APPLICANT: BROYER, Vyacheslav
TITLE OF INVENTION: Sequence-Determined DNA Fragments and Corresponding Polypeptides
TITLE OF INVENTION: Thereby
FILE REFERENCE: 2750-1063P
                                                                                                                                     APPLICANT:
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PRIOR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: misc_feature
LOCATION: 1..161
OTHER INFORMATION: Xaa is any amino acid
NAME/KEY: misc_feature
LOCATION: 1..161
OTHER INFORMATION: Ceres Seq. ID 1348465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
TYPE: PI
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                                                                                                                                                                                                                                                                                            34 LVPFPPPLL 42
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FILING DATE: 1999-12-03
APPLICATION NUMBER: US 60/125,359
FILING DATE: 1999-03-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 60/124,142 FILING DATE: 1999-03-12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US 60/126,051 FILING DATE: 1999-03-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 60/168,664 FILING DATE: 1999-12-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 1999-06-11
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                                                                                                                Edgerton, Michael D
Hinkle, Gregory J.
Kovalic, David K.
                                                                                                  Liu, Jingdong
                                                                                                                                                                                                                                                                                                                                                              Conservative
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70.0%;
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77.8%;
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Pred. No. 91;
1; Mismatches
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Pred. No. 1.2e
1; Mismatches
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1;
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Sequence 903, Application US/09758462
GENERAL INFORMATION:
APPLICANT: ROSen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and
FILE REFERENCE: PM007
CURRENT APPLICATION NUMBER: US/09/758,462
CURRENT FILING DATE: 2001-01-11
PRIOR APPLICATION NUMBER: 60/179,065
PRIOR TILING DATE: 2000-01-31
PRIOR TILING DATE: 2000-01-31
PRIOR APPLICATION NUMBER: 60/180,628
PRIOR APPLICATION NUMBER: 60/180,628
PRIOR FILING DATE: 2000-02-04
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Best Local Similarity
"hes 5; Conserv?
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Best Local Similarity
Thas 6; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Homo sapiens PCT-US01-08656-9992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PCT-US01-08656-9992
                                                                                                                SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 903
LENGTH: 88
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Custom SEQ ID NO 9992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Hyseq, Inc
APPLICANT: Hyseq, Inc
TITLE OF INVENTION: NOVEL MACROPHAGE NUCLEIC
FILE REFERENCE: 21272-066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 6518
LENGTH: 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 9992,
NAME/KEY: SITE
LOCATION: (74)
OTHER INFORMATION: X
NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR FILING DATE: 2000-04-18
PRIOR APPLICATION NUMBER: 09/770,160
PRIOR FILING DATE: 2001-01-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: PCT/US01/08656
CURRENT FILING DATE: 2001-04-16
PRIOR APPLICATION NUMBER: 09/522,929
                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 1734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 10994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Glycine
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
                                                                                            ORGANISM: Homo sapiens
                                                                             FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ENGTH: 47
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                     Xaa equals any of the naturally occurring L-amino acids
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85.7%;
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Pred. No.
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Pred. No.
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OR APPLICATION NUMBER: PCT/US00/06782
OR FILING DATE: 2000-03-16
OR APPLICATION NUMBER: PCT/US00/06822
OR FILING DATE: 2000-03-16
OR APPLICATION NUMBER: PCT/US00/06791
OR FILING DATE: 2000-03-16
OR APPLICATION NUMBER: PCT/US00/06828
OR FILING DATE: 2000-03-16
OR APPLICATION NUMBER: PCT/US00/06823
OR FILING DATE: 2000-03-16
OR APPLICATION NUMBER: PCT/US00/06781
OR FILING DATE: 2000-03-16
OR APPLICATION NUMBER: PCT/US00/07505
OR APPLICATION NUMBER: PCT/US00/07440
OR FILING DATE: 2000-03-22
OR APPLICATION NUMBER: PCT/US00/07505
OR FILING DATE: 2000-03-22
OR APPLICATION NUMBER: PCT/US00/07506
OR FILING DATE: 2000-03-22
OR APPLICATION NUMBER: PCT/US00/07506
OR APPLICATION NUMBER: PCT/US00/07507

DR APPLICATION NUMBER: PCT/US00/07535
DR FILING DATE: 2000-03-22
DR APPLICATION NUMBER: PCT/US00/07525
DR FILING DATE: 2000-03-22
DR APPLICATION NUMBER: PCT/US00/07534
DR FILING DATE: 2000-03-22
DR APPLICATION NUMBER: PCT/US00/07483

FILING DATE: 2000-03-22
APPLICATION NUMBER: PCT/US00/07527
FILING DATE: 2000-03-22
APPLICATION NUMBER: PCT/US00/07661
FILING DATE: 2000-03-23

FILING DATE: 2000-03-22
APPLICATION NUMBER; PCT/US00/07526
FILING DATE: 2000-03-22

FILING DATE: 2000-03-23
APPLICATION NUMBER: PCT/US00/07579
FILING DATE: 2000-03-23
APPLICATION NUMBER: PCT/US00/07723
FILING DATE: 2000-03-23
APPLICATION NUMBER: PCT/US00/07724

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| RAPPLICATION FILING DATE: APPLICATION FILING DATE: | FILING DATE APPLICATION FILING PROPERTY FILING | FILING DATI APPLICATION FILING |
| N NUMBER: US 60/168,665 1999-12-03 N NUMBER: US 60/125,360 1999-03-19 N NUMBER: US 60/138,626 1999-06-11 NUMBER: US 60/168,662 1999-12-03 NUMBER: US 60/124,144 1999-05-11 NUMBER: US 60/138,574 NUMBER: US 60/138,574 NUMBER: US 60/168,667 | 1999-03 NUMBER: 1999-11 NUMBER: 1999-11 NUMBER: 1999-12 NUMBER: 1999-12 NUMBER: 1999-12 NUMBER: 1999-03 NUMBER: 1999-03 NUMBER: 1999-03 NUMBER: 1999-12 NUMBER: 1999-12 NUMBER: 1999-12 NUMBER: 1999-12 NUMBER: 1999-12 NUMBER: 1999-12 | |

OR FILING DATE: 2000-03-23
OR APPLICATION NUMBER: PCT/US00/14929
OR FILING DATE: 2000-06-01
OR APPLICATION NUMBER: PCT/US00/07722
OR FILING DATE: 2000-03-23
OR APPLICATION NUMBER: PCT/US00/07578
OR APPLICATION NUMBER: PCT/US00/07726
OR APPLICATION NUMBER: PCT/US00/07726
OR FILING DATE: 2000-03-23
OR FILING DATE: 2000-03-23
OR FILING DATE: 2000-03-23

APPLICATION NUMBER: PCT/US00/07677 FILING DATE: 2000-03-23

OR APPLICATION NUMBER: PCT/US00/097725

OR FILING DATE: 2000-03-23

OR APPLICATION NUMBER: PCT/US00/09070

OR FILING DATE: 2000-04-06

OR APPLICATION NUMBER: PCT/US00/08982

OR FILING DATE: 2000-04-06

OR APPLICATION NUMBER: PCT/US00/08983

OR FILING DATE: 2000-04-06

OR APPLICATION NUMBER: PCT/US00/09067

OR FILING DATE: 2000-04-06

OR APPLICATION NUMBER: PCT/US00/09068

OR APPLICATION NUMBER: PCT/US00/09068

OR FILING DATE: 2000-04-06

OR APPLICATION NUMBER: PCT/US00/090881

OR APPLICATION NUMBER: PCT/US00/08981

OR APPLICATION NUMBER: PCT/US00/08981

OR APPLICATION NUMBER: PCT/US00/08980

OR FILING DATE: 2000-04-06

OR APPLICATION NUMBER: PCT/US00/08980

OR APPLICATION NUMBER: PCT/US00/09069

PCT/US00/15136

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DR FILLING DATE: 2000-11-17
DR APPLICATION NUMBER: 60/249,214
DR FILLING DATE: 2000-11-17
DR APPLICATION NUMBER: 60/249,297
DR FILLING DATE: 2000-11-17
DR APPLICATION NUMBER: 60/232,400
DR FILING DATE: 2000-09-14
DR APPLICATION NUMBER: 60/231,242
DR FILING DATE: 2000-09-14
                  APPLICATION NUMBER: 60/233,064 FILING DATE: 2000-09-14
                                                                                                APPLICATION NUMBER: 60/2
FILING DATE: 2000-09-08
APPLICATION NUMBER: 60/2
FILING DATE: 2000-09-08
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APPLICATION NUMBER: 60/249,245
FILING DATE: 2000-11-17
APPLICATION NUMBER: 60/249,244
FILING DATE: 2000-11-17
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APPLICATION NUMBER: 60/215,135
FILING DATE: 2000-06-30
APPLICATION NUMBER: 60/225,266
FILING DATE: 2000-08-14
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FILING DATE: 2000-08-14
APPLICATION NUMBER: 60/235,836
FILING DATE: 2000-09-27
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APPLICATION NUMBER: 60/227,182
FILING DATE: 2000-08-22
                                                            APPLICATION NUMBER: 60/:
FILING DATE: 2000-09-08
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APPLICATION NUMBER: 60/232,081
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FILING DATE: 2000-11-17
APPLICATION NUMBER: 60/249,211
FILING DATE: 2000-11-17
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  APPLICATION NUMBER:
                                                                                                                                                                                  FILING DATE: 2000-09-08
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60/233,063
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                                                                               60/231,244
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RESULT 11
US-09-950-083-3140
Commence 3140, Ap
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PRIOR FILING DATE: 2001-03-27
PRIOR PPLICATION NUMBER: 09/83,245
PRIOR FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: PCT/US01/11988
PRIOR FILING DATE: 2001-04-12
PRIOR FILING DATE: 2001-04-04
PRIOR APPLICATION NUMBER: PCT/US00/06043
PRIOR FILING DATE: 2000-03-09
PRIOR FILING DATE: 2000-03-09
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APPLICANT: Rosen, e
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Best Local
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CURRENT FILING DATE: 2001-09-12
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FOR FILING DATE: 2000-03-09

FOR APPLICATION NUMBER: PCT/US00/06044

FOR FILING DATE: 2000-03-09

FOR APPLICATION NUMBER: PCT/US00/06059

FOR APPLICATION NUMBER: PCT/US00/06042

FOR FILING DATE: 2000-03-09

FOR APPLICATION NUMBER: PCT/US00/06014

FOR APPLICATION NUMBER: PCT/US00/06014

FOR APPLICATION NUMBER: PCT/US00/06013

FOR APPLICATION NUMBER: PCT/US00/06013

FOR APPLICATION NUMBER: PCT/US00/06013

FOR APPLICATION NUMBER: PCT/US00/06014
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OR APPLICATION NUMBER: 60/241,786
OR FILING DATE: 2000-10-20
OR APPLICATION NUMBER: 60/241,221
OR FILING DATE: 2000-10-20
OR APPLICATION NUMBER: 60/246,475
OR FILING DATE: 2000-11-08
OR APPLICATION NUMBER: 60/231,243
OR APPLICATION NUMBER: 60/233,065
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OR APPLICATION NUMBER: 60/233,065
OR FILING DATE: 2000-09-14
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OR APPLICATION NUMBER: 60/232,399
OR FILING DATE: 2000-09-14
OR APPLICATION NUMBER: 60/232,401
OR FILING DATE: 2000-09-14
OR APPLICATION NUMBER: 60/241,808
OR FILING DATE: 2000-10-20
OR APPLICATION NUMBER: 60/241,826
OR APPLICATION NUMBER: 60/241,826
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RR APPLICATION NUMBER: PCT//
RR FILING DATE: 2000-03-09
RR FILING DATE: 2000-03-16
RR FILING DATE: 2000-03-16
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APPLICATION N
FILING DATE:
                                                                       APPLICATION NUMBER: PCT
FILING DATE: 2000-03-16
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                                                      APPLICATION NUMBER:
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2000-03-16
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70.0%;
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Best Local Similarity
"atches 6; Conserv:
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-758-462-1327
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US-09-758-462-1327
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Sequence 12711, Appl
GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: 60/179,065
PRIOR FILING DATE: 2000-01-31
PRIOR APPLICATION NUMBER: 60/180,628
PRIOR FILING DATE: 2000-02-04
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CURRENT FILING DATE: 2001-01-11
PRIOR APPLICATION NUMBER: 60/179,065
PRIOR FILING DATE: 2000-01-31
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TITLE OF INVENTION: Nucleic Acids, Proteins,
FILE REFERENCE: PM007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
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NUMBER OF SEQ ID NOS: 1734
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26 PFPGPLV 32
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                 FILING DATE: 2000-07-07
APPLICATION NUMBER: 60/225,267
FILING DATE: 2000-08-14
                                                                  APPLICATION
                                                                                 APPLICATION FILING DATE:
                                                                                                                                  APPLICATION NUMBER: 60/225,757
                                                                                                                                                   APPLICATION NUMBER: 60/218,290 FILING DATE: 2000-07-14
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                                                                  NUMBER:
                                                                                                  NUMBER:
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                                                                                 2000-08-22
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85.7%;
                                                               60/216,647
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60/216,880
                                                                                                60/226,868
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Pred. No.
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67;
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PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR OR APPLICATION NUMBER: 60/251,856
OR FILING DATE: 2000-12-08
OR APPLICATION NUMBER: 60/251,868
OR APPLICATION NUMBER: 60/229,344
OR APPLICATION NUMBER: 60/234,997
OR APPLICATION NUMBER: 60/234,997
OR APPLICATION NUMBER: 60/234,997
OR APPLICATION NUMBER: 60/239,343 FILING DATE: 2000-10-02
APPLICATION NUMBER: 60/237,038
APPLICATION NUMBER: 60/237,038
APPLICATION NUMBER: 60/237,038 FILING DATE: 2000-08-30 FILING DATE: 2000 ...
APPLICATION NUMBER: 60 FILING DATE: 2000-10-02
APPLICATION NUMBER: 60/240,960
FILING DATE: 2000-10-20
APPLICATION NUMBER: 60/239,935 APPLICATION NUMBER: 60/229,287 FILING DATE: 2000-09-01 APPLICATION NUMBER: 60/229,513 FILING DATE: 2000-09 APPLICATION NUMBER: FILING DATE: 2000-09 FILING DATE: 2000-10-02 APPLICATION NUMBER: 60/237,040 APPLICATION NUMBER: FILING DATE: 2000-09 APPLICATION NUMBER: 60/225,268
FILING DATE: 2000-08-14
APPLICATION NUMBER: 60/236,368 APPLICATION NUMBER: 60/241,785 FILING DATE: 2000-10-20 APPLICATION NUMBER: 60/244,617 FILING DATE: 2000-11-01 APPLICATION NUMBER: FILING DATE: 2000-08 APPLICATION NUMBER: 60/224,518 FILING DATE: 2000-08-14 APPLICATION NUMBER: FILING DATE: 2000-12 APPLICATION NUMBER: 60/237,037 APPLICATION NUMBER: 60/236,802 FILING DATE: 2000-10-02 FILING DATE: APPLICATION NUMBER: 60/236,370 APPLICATION NUMBER: 60/237,039 FILING DATE: APPLICATION NUMBER: 60/236,367 FILING DATE: APPLICATION NUMBER: 60/229,509 FILING DATE: FILING DATE: FILING DATE: 2000-11-17 APPLICATION NUMBER: 60/236,327 APPLICATION NUMBER: 60/249,299 FILING DATE: APPLICATION NUMBER: 60/241,809 FILING DATE: APPLICATION NUMBER: FILING DATE: APPLICATION NUMBER: FILING DATE: FILING DATE: APPLICATION NUMBER: APPLICATION NUMBER: LING DATE: NUMBER: 60/239,935 2000-09-29 2000-09-01 2000-09-29 2000-10-20 2000-07-26 2000-09-29 2000-09-2 2000-09-2000-12-08 2000-09-29 2000-09-05 2000-09-08 2000-09-05 2000-09-01 2000-08-2000-09-2000-07-07 60/231,413 60/229,345 60/220,964 60/224,519 60/236,369 60/234,223 60/234,274 60/235,834 60/251,869 60/225,270 60/228,924

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Query Match
Best Local Similarity
Catches 6; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-757-028-2555
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PRIOR FILING DATE: 2000-02-04
NUMBER OF SEQ ID NOS: 2660
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 2555
LENGTH: 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2555, Application US/09757028 GENERAL INFORMATION:
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Best Local Similarity
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PRIOR APPLICATION NUMBER: 60/179,065
PRIOR FILING DATE: 2000-01-31
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PRIOR APPLICATION NUMBER: US 60/180,312
PRIOR FILING DATE: 2000-02-04
                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PM001
                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 60/207,456
PRIOR FILING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: US 09/632,366
PRIOR FILING DATE: 2000-08-03
                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/864,761
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TYPE: PRT
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                                                                                                                                      APPLICATION NUMBER: GB 24263.6
FILING DATE: 2000-10-04
                                                                       APPLICATION NUMBER: PCT/US01/00666 FILING DATE: 2001-01-30
                                                                                                       APPLICATION NUMBER: US 60/236,359 FILING DATE: 2000-09-27
                                                      APPLICATION NUMBER: PCT/US01/00667
                                      FILING DATE: 2001-01-30
     APPLICATION NUMBER: PCT/US01/0066/
F%LING DATE: 2001-01-30
                                                                                                                                                                                                                                                                                                                                                                      Hanzel, David |
Chen, Wensheng
                                                                                                                                                                                                                                                                                                                                                                                                         Rank, David R.
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70.0%;
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85.7%;
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Pred. No.
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Pred. No.
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                                                                                     FEATURE:

; NAME/KEY: SIGNAL

; LOCATION: -37...-1

US-09-834-366-19427
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SOFTWARE: Patent.pm
SEQ ID NO 19427
LENGTH: 50
Query Match
Best Local Similarity
Matches 7; Conserv
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Best Local Similarity
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APPLICANT: Tanaka, Hiroaki
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                                                                                                                                                        ORGANISM: Homo sapiens
                                                                                                                                                                           TYPE: PRT
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; FEATURE:
; OTHER INFORMATION: MAP TO ACCO2504.1
; OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 0.42
; OTHER INFORMATION: EST_HUMAN HIT: AW028575.1, EVALUE 6.00e-19
; OTHER INFORMATION: SWISSPROT HIT: O35085, EVALUE 2.00e-29
US-09-864-761-48232
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SEQ ID NO 48232
LENGTH: 104
TYPE: PRT
ORGANISM: Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/09/834,366 CURRENT FILING DATE: 2001-04-13
                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 60/197,873 PRIOR FILING DATE: 2000-04-18
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NUMBER OF SEQ ID NOS: 49117
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PRIOR APPLICATION NUMBER: US 09/608,408
PRIOR FILING DATE: 2000-06-30
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PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/US01/00668
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                      65.5%;
70.0%;
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85.7%;
                   Score 38;
Pred. No.
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Pred. No.
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                   DB 5;
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                                               Length 50;
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RESULT 3
US-09-803-110-9641
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Best Local Similarity
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             APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
TITLE OF INVENTION: Agrobacterium tumefaciens Genome :
FILE REFERENCE: 38-10(15490)D
CURRENT APPLICATION NUMBER: US/09/803,110
CURRENT FILING DATE: 2001-03-12
PRIOR APPLICATION NUMBER: US 09/739,449
PRIOR APPLICATION NUMBER: US 09/739,449
PRIOR APPLICATION NUMBER: US 09/739,449
PRIOR APPLICATION NUMBER: US 09/514,000
PRIOR PILING DATE: 2000-12-19
PRIOR PRIOR FILING DATE: 2000-02-23
PRIOR FILING DATE: 2000-02-23
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CURRENT FILING DATE: 2001-03-30
PRIOR APPLICATION NUMBER: 09/540,217
PRIOR FILING DATE: 2000-03-31
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TITLE OF INVENTION: NOVEL NUCLEIC ACIDS AND POLYPEPTIDES
FILE REFERENCE: 21272-049
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PRIOR APPLICATION NUMBER: 60/231,243
PRIOR FILING DATE: 2000-09-08
PRIOR APPLICATION NUMBER: 60/233,065
PRIOR FILING DATE: 2000-09-14
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LOCATION: (34)..(188)
COTHER INFORMATION: Phosphoribosyl transferase domain identified by PFam,
OTHER INFORMATION: accession name Pribosyltran, E-value=3.3e-43, PFam score of 157.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: DOMAIN
LOCATION: (126)..(142)
COTHER INFORMATION: Purine/pyrimidine phosphoribosyl transferases proteins domain
OTHER INFORMATION: identified by eMATRIX, accession number BL00103B, p-value=1.947e.
OTHER INFORMATION: 14, raw score of 9.64
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APPLICATION NUMBER: US 60/168,139
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60.0%;
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77.88;
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; ORGANISM: Homo sapiens ; FEATURE; NAME/KEY: misc_feature ; LOCATION: (1)...(547) ; OTHER INFORMATION: Xaa PCT-USO1-08631-44470
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                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PCT-US01-08631-44470
                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: N. ALEXANDROV et al.
                                                                                                                                                           NUMBER OF SEQ ID NOS: SEQ ID NO 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 7; Conserv
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SEQ ID NO 44470
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Best Local Similarity
Matches 6; Conserv
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SEQ ID NO 9641
                                                                                                                                                                                                                               TITLE OF INVENTION: Sequence-Determined DNA Fragments and Corresponding Polypeptid TITLE OF INVENTION: Thereby FILE REFERENCE: 2750-1064P
                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/617,681A CURRENT FILING DATE: 2000-07-19 NUMBER OF SEQ ID NOS: 9311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Hyseq, Inc
TITLE OF INVENTION: NOVEL NUCLEIC ACIDS AND
FILE REFERENCE: 21272-049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: PCT/US01/08631 CURRENT FILING DATE: 2001-03-30
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PRIOR FILING DATE: 2000-08-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR EILING DATE: 2000-03-31
                           NAME/KEY: misc_feature LOCATION: 1..61 OTHER INFORMATION: Ceres Seq. ID 1426763
                                                                                   TYPE: PRT
ORGANISM: Arabidopsis thaliana
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
NAME/KEY: misc_feature LOCATION: 1..61
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75.08;
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Pred. No. 1.3e+02;
1; Mismatches 1
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| PRIOR APPLICATION WINDER: 00729, 224 PRIOR PLILAGE DATE: 2000-09-10, 20 PRIOR PLILAGE DATE: 2000-19-10, 20 PRIOR PLILAGE DATE: 2000-11-17 PRIOR PLILAGE DATE: 2000-19-10 PRIOR PRILAGE DATE: 2000-19-10 PRIOR PRICAGE DATE: 2000-19-10 PRIOR PRICAGE DATE: 2000-19-10 PRIOR PRICAGE DATE: 2000-10-20 PRIOR PRICAGE DATE: 2000-10-20 PRIOR PRICAGE DATE: 2000-10-20 PRIOR PRICAGE DATE: 2000-10-20 PRIOR PRICAGE DATE: 2000 | RIOR APPLICATION NUMBER: RIOR FILING DATE: 2000-I RIOR APPLICATION NUMBER: RIOR FILING DATE: 2000-I RIOR FILING DATE: 2000-I RIOR FILING DATE: 2000-I RIOR APPLICATION NUMBER: RIOR APPLICATION NUMBER: RIOR APPLICATION NUMBER: RIOR FILING DATE: 2000-I RIOR FILING DATE: 2000-I RIOR FILING DATE: 2000-I RIOR FILING DATE: 2000-I RIOR APPLICATION NUMBER: RIOR FILING DATE: 2000-I | RIOR APPLICATION NUMBER: 60/236, RIOR FILING DATE: 2000-09-05 RIOR APPLICATION NUMBER: 60/236, RIOR FILING DATE: 2000-09-29 RIOR APPLICATION NUMBER: 60/237, RIOR FILING DATE: 2000-10-02 RIOR FILING DATE: 2000-10-02 RIOR FILING DATE: 2000-10-02 RIOR FILING DATE: 2000-10-02 RIOR APPLICATION NUMBER: 60/237, RIOR APPLICATION NUMBER: 60/237, RIOR APPLICATION NUMBER: 60/237, RIOR APPLICATION NUMBER: 60/239, RIOR APPLICATION NUMBER: 60/239, RIOR APPLICATION NUMBER: 60/239, RIOR APPLICATION NUMBER: 60/239, RIOR FILING DATE: 2000-10-10-13 | RIOR FILING DATE: 2000-09-29 RIOR APPLICATION NUMBER: 60/251, RIOR FILING DATE: 2000-12-08 RIOR APPLICATION NUMBER: 60/251, RIOR APPLICATION NUMBER: 60/259, RIOR APPLICATION NUMBER: 60/229, RIOR APPLICATION NUMBER: 60/234, RIOR FILING DATE: 2000-09-01 RIOR APPLICATION NUMBER: 60/229, RIOR APPLICATION NUMBER: 60/229, RIOR FILING DATE: 2000-09-01 RIOR APPLICATION NUMBER: 60/229, RIOR FILING DATE: 2000-09-05 | FILING DATE: 2000-0 APPLICATION NUMBER: FILING DATE: 2000-1 APPLICATION NUMBER: FILING DATE: 2000-1 APPLICATION NUMBER: FILING DATE: 2000-0 APPLICATION NUMBER: FILING DATE: 2000-0 APPLICATION NUMBER: APPLICATION NUMBER: FILING DATE: 2000-0 APPLICATION NUMBER: |
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1: /cgn2_6/ptodata/2/paa/PCT_NEW_COMB.pep:*

2: /cgn2_6/ptodata/2/paa/US06_NEW_COMB.pep:*

3: /cgn2_6/ptodata/2/paa/US07_NEW_COMB.pep:*

4: /cgn2_6/ptodata/2/paa/US09_NEW_COMB.pep:*

5: /cgn2_6/ptodata/2/paa/US09_NEW_COMB.pep:*

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US-09-864-761-48232
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US-09-758-462-1327
US-09-764-905-12711
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US-09-854-856-48
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US-09-854-856-62
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US-09-764-905-15768
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| 4 5 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | 31 | 30 | 29 | 28 |
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| 36 | 36 | 36.5 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| 62.1 | 62.1 | 62.9 | 63.8 | 63.8 | 63.8 | 63.8 | 63.8 | 63.8 | 63.8 | 63.8 | 63.8 | 63.8 | 63.8 | 63.8 | 63.8 | 63.8 | 63.8 |
| 52 | 32 | 644 | 2382 | 2354 | 2322 | 2294 | 2245 | 2229 | 2217 | 2201 | 2185 | 2169 | 2157 | 2141 | 2136 | 2108 | 2092 |
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| US-09-617-682A-11585 | US-09-617-682A-15882 | PCT-US01-08656-7313 | US-09-854-856-2 | US-09-854-856-18 | US-09-854-856-34 | US-09-854-856-50 | US-09-854-856-4 | US-09-854-856-8 | US-09-854-856-20 | US-09-854-856-24 | US-09-854-856-36 | US-09-854-856-40 | US-09-854-856-52 | US-09-854-856-56 | US-09-854-856-14 | US-09-854-856-30 | US-09-854-856-10 |
| Sequence 11585, A | Sequence 15882, A | Sequence 7313, Ap | Sequence 2, Appli | Sequence 18, Appl | Sequence 34, Appl | Sequence 50, Appl | Sequence 4, Appli | Sequence 8, Appli | Sequence 20, Appl | • | Sequence 36, Appl | - | Sequence 52, Appl | - | Sequence 14, Appl | • | Sequence 10, Appl |

ALIGNMENTS

Application

US/09764905

PRIOR CURRENT APPLICATION NUMBER: US/09/764,905
CURRENT FILING DATE: 2001-01-17 APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic PRIOR PRIOR PRIOR FILING DATE: PRIOR APPLICATION NUMBER: FILE REFERENCE: PC004 R FILING DATE: 2000-12-08
R APPLICATION NUMBER: 60/2:
R FILING DATE: 2000-09-27
R FILING DATE: 2000-09-21
R FILING DATE: 2000-09-21 PR APPLICATION NUMBER: 60/225,267
PR FILING DATE: 2000-08-14
PR APPLICATION NUMBER: 60/216,880
PR FILING DATE: 2000-07-07
PR FILING DATE: 2000-07-07
PR FILING DATE: 2000-08-14
PR APPLICATION NUMBER: 60/251,869
PR APPLICATION NUMBER: 60/251,869 R FILING DATE: 2000-08-14
R APPLICATION NUMBER: 60/22
R FILING DATE: 2000-08-22
R APPLICATION NUMBER: 60/2:
R APPLICATION NUMBER: 60/2:
R FILING DATE: 2000-07-07 FILING DATE: 2000-07.
APPLICATION NUMBER: 60/.
TTING DATE: 2000-08-14 APPLICATION NUMBER: 60/217,496
FILING DATE: 2000-07-11
APPLICATION NUMBER: 60/225,447
FILING DATE: 2000-08-14
APPLICATION NUMBER: 60/218,290 APPLICATION NUMBER: 60/ FILING DATE: 2000-06-28 APPLICATION NUMBER: 60/ FILING DATE: 2000-08-30 APPLICATION NUMBER: 60/ FILING DATE: 2000-09-21 APPLICATION NUMBER: 6 FILING DATE: 2000-07-APPLICATION NUMBER: 60/180,628 FILING DATE: 2000-02-04 FILING DATE: 2000-07-26 APPLICATION NUMBER: FILING DATE: APPLICATION NUMBER: 2000-08-14 2000-01-2001-01-60/235,834 60/225,758 60/228,924 60/216,647 60/225,757 60/220,963 60/217,487 60/179,065 60/234,223 60/234,274 60/226,868 60/214,886 Acids, Proteins, and Antibodies

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Page 5
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; SEQ ID NO 40482; LENGTH: 103; TYPE: PRT; ORGANISM: A.fumigatus US-09-417-507-40482

Query Match 67.2%; Score 39; DB 18; Length 103; Best Local Similarity 87.5%; Pred. No. 3.2e+02; Matches 7; Conservative 0; Mismatches 1; Indels 0; Gaps 0; Matches 7; Conservative 0; Mismatches 1; Saps 0; Matches 1: Indels 0; Gaps 0; Matches 1: Indel

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RESULT 13
US-09-527-522-5
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Best Local Similarity
"hes 7; Conserva
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US-09-134-000-4944
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                                                                                                                                                                                                                                                                                                                                      Sequence 4944, Application US/09134000A
GENERAL INFORMATION:
APPLICANT: Lynn Doucette-Stamm et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ENTEROCOCCUS
TITLE OF INVENTION: FAECALIS FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC-005
CUBRENT APPLICATION NUMBER: US/09/134,000A
CURRENT FILING DATE: 1998-08-13
NUMBER OF SEQ ID NOS: 6810
SEQ ID NO 4944
LENGTH: 449
TYPE: PRT
Sequence 5, Application US/09527522
GENERAL INFORMATION:
APPLICANT: Takashima, Yoshiki
APPLICANT: Mitsuda, Satoshi
TITLE OF INVENTION: Protein capable of catalyzing transamination
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/60/191,637
CURRENT FILING DATE: 2000-03-23
NUMBER OF SEQ ID NOS: 42660
SOFTWARE: FBSTSEQ for Windows Version 4.0
SEQ ID NO 7407
LENGTH: 345
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Best Local
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TITLE OF INVENTION: MUCLEIC ACID DETECTION KITS COMPRISING
TITLE OF INVENTION: GENE SEQUENCES EXPRESSED FROM THE DROSS
TITLE OF INVENTION: USES THEREOF
FILE REFERENCE: CL000392
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Pred. No.
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Pred. No.
                                                                                                                                                                                                                                        Score 40; 1
Pred. No. 9
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9.6e+02;
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CURRENT APPLICATION NUMBER: US/60/185,361
CURRENT FILING DATE: 2000-02-28
NUMBER OF SEQ ID NOS: 968
SOFTWARR: FastSEQ for Windows Version 4.0
SEQ ID NO 923
LENGTH: 77
TYPE: PRT
ORGANISM: HUMAN
FEATURE:
FEATURE:
                                                            Sequence 40482, Application US/09417507

GENERAL INFORMATION:
APPLICANT: KEITH G. WEINSTOCK ET AL.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ASPERGILLUS; TITLE OF INVENTION: FUMIGATUS FOR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENCE: PATH99-10
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; NAME/KEY: VARIANT;
; LOCATION: (1)...(77)
; OTHER INFORMATION: Xaa =
US-60-185-361-923
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US-60-185-361-923
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US-09-527-522-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: Pa
SEQ ID NO 5
LENGTH: 19
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Best Local S
Matches 7
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GENERAL INFORMATION:
APPLICANT: Bonazzi, Vivien
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Best Local Similarity
CURRENT APPLICATION NUMBER: US/09/417,507
CURRENT FILING DATE: 1999-10-14
NUMBER OF SEQ ID NOS: 44312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: stereoselectively, gene encoding said protein TITLE OF INVENTION: and use thereof FILE REFERENCE: 058.51 CURRENT APPLICATION NUMBER: US/09/527.522 CURRENT FILING DATE: 2000-03-16 PRIOR APPLICATION NUMBER: JP 11/075511 PRIOR ETLING DATE: 1999-03-19 PRIOR APPLICATION NUMBER: JP 11/075611 PRIOR APPLICATION NUMBER: JP 11/078634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: ISOLATED HUMAN SECRETED PROTEINS, TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING ITITLE OF INVENTION: USES-THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILE REFERENCE: CL000291
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
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Pred. No.
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                              2.4e+02;
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54 LPFPGPLI 61

3 MPFPGPLL 10 :|||||:

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US-60-173-464-6181
; Sequence 6181, Application US/60173464
; Sequence 6181, Application US/60173464
; GENERAL INFORMATION:
; APPLICANT: Li, Peter W.D.
; TITLE OF INVENTION: ISOLATED G-PROTEIN COUPLED RECEPTORS,
; TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING GPCR PROTEINS AND USES
; TITLE OF INVENTION: THEREOF
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US-60-167-217-7726
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 7726, Application US/60167217
GENERAL INFORMATION:
APPLICANT: Li, Peter W. D.
TITLE OF INVENTION: ISCLATED DROSOPHILA PROTEINS, NUCLEIC
TITLE OF INVENTION: ACID MOLEUCLES ENCODING DROSOPHILA PROTEINS, AND
TITLE OF INVENTION: THEREOF
FILE REFERENCE: CLOOMIS2
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GEMERAL INFORMATION:
APPLICANT: Hinkle, Gregory J.
APPLICANT: Slater, Steven C.
TITLE OF INVENTION: Agrobacterium tumefaciens Genome Sequences and Uses Thereof FILE REFERENCE: 38-10(15490)C
CURRENT APPLICATION NUMBER: US/09/739,449
CURRENT FILING DATE: 2000-12-19
PRIOR APPLICATION NUMBER: US 09/514,000
PRIOR FILING DATE: 2000-02-23
NUMBER OF SEQ ID NOS: 13351
SEQ ID NO 9641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/60/167,217
CURRENT FILING DATE: 1999-11-24
NUMBER OF SEQ ID NOS: 23195
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 7726
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Best Local Similarity
Matches 6; Conserv
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Best Local
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FILE REFERENCE: CL000173
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TYPE: PRT
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75.0%;
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Pred. No. 8e+0
1; Mismatches
                                                                                                                                                                                                                                                                                                                              Score 41; DB 23; Length 1021; Pred. No. 1.5e+03; pred. No. 1.5e+03; Indels
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8e+02;
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; LENGTH: 265
; TYPE: PRT
; ORGANISM: HUMAN
US-60-242-679-964
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US-60-167-217-7501
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; TYPE: PRT
; ORGANISM: Drosophila
US-60-173-464-6181
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US-60-242-679-964
US-60-167-217-7501
                                                                 Sequence 7501, Application US/60167217

GENERAL INFORMATION:
APPLICANT: Li, Peter W. D.
TITLE OF INVENTION: ISOLATED DROSOPHILA PROTEINS, NUCLEIC TITLE OF INVENTION: ACID MOLEUCLES ENCODING DROSOPHILA PROTEINS, TITLE OF INVENTION: THEREOF FILE REFERENCE: CL000152

CURRENT APPLICATION NUMBER: US/60/167,217

CURRENT FILING DATE: 1999-11-24

NUMBER OF SEQ ID NOS: 23195

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 7501
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SOFTWARE: FastSEQ for
SEQ ID NO 964
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Best Local Similarity 75.0%;
Matches 6; Conservative
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Best Local :
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CURRENT FILING DATE: 1999-12-29
NUMBER OF SEO ID NOS: 30269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: DUDMAN, Alex
TITLE OF INVENTION: ISOLATED HUMAN SECRETED PROTEINS,
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING HUMAN SECRETED PROTEINS, AND
TITLE OF INVENTION: USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/60/242,679
CURRENT FILING DATE: 2000-10-24
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           LENGTH: 345
TYPE: PRT
ORGANISM: Drosophila
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nes 6; Conserv
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Wang, Yu
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Greenberg, Simon
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75.0%;

    Mismatches

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Pred. No. 1.6e+03;
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PCT-US01-01354-15768

Sequence 15768, Application PC/TUS0101354

GENERAL INFORMATION:
APPLICANT: Human Genome Sciences, Inc. et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and
FILE REFERENCE: PC004PCT
CURRENT APPLICATION NUMBER: PCT/US01/01354

CURRENT FILING DATE: 2001-03-17

NUMBER OF SEQ ID NOS: 42506
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 15768
LENGTH: 98
TYPE: PRT
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US-09-252-991A-27500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Homo sapiens
; FEATURE: -
OTHER INFORMATION: g120956
US-09-519-012-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; ORGANISM: Homo sapiens
PCT-US01-01354-15768
                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity bu.u
"^+^hes 6; Conservative
                                                                                                                                              Sequence 27500, Application US/09252991A GENERAL INFORMATION:
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CURRENT FILING DATE: 2000-03-03
EARLIER APPLICATION NUMBER: 09/024,808
EARLIER FILING DATE: February 17, 1998
NUMBER OF SEQ ID NOS: 22
SOFTWARE: PERL Program
SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 3, Application US/09519012
GENERAL INFORMATION:
APPLICANT: Tang, Y. Tom
APPLICANT: Corley, Neil C.
APPLICANT: Lal, Preeti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
APPLICANT: MATC J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 107195, 136
CURRENT_APPLICATION NUMBER: US/09/252,991A
CURRENT_FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
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APPLICANT: Pearson, Cecelia
TITLE OF INVENTION: HUMAN GATA ZINC FINGER PROTEIN AND VARIANTS
FILE REFERENCE: PF-0474-1 CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -09-519-012-3
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TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      378 HLMPFPGPLL 387
                                                                                                                                                                                                                                                                            42 HVLPFPSPML 51
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; PRIOR FILING DATE: 1998-02-18; PRIOR FILING DATE: 1998-07-26; PRIOR FILING DATE: 1998-07-27; NUMBER OF SEQ ID NOS: 33142; SEQ ID NO 27500; LENGTH: 406; TYPE: PRT
                                                                                                           ; NAME/KEY: SITE
; LOCATION: (114)
; OTHER INFORMATION:
PCT-US99-05804-111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Pseudomonas aeruginosa US-09-252-991A-27500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PCT-US99-05804-111
Query Match
Best Local Similarity
Matches 6; Conserv
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SEQ ID NO 111
LENGTH: 114
TYPE: PRT
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Best Local
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CURRENT APPLICATION NUMBER: PCT/US99/05804
CURRENT FILING DATE: 1999-03-18
EARLIER APPLICATION NUMBER: 60/078,566
EARLIER FILING DATE: 1998-03-19
                                                                                                                                                                                                                                                                                                                                                                                                                     EARLIER FILING DATE: 1998-04-01
EARLIER APPLICATION NUMBER: 60/080,313
EARLIER FILING DATE: 1998-04-01
NUMBER OF SEQ ID NOS: 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Human Genome Sciences, Inc., et al. TITLE OF INVENTION: 95 Human Secreted Proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EARLIER FILING DATE: 1998-03-19
EARLIER APPLICATION NUMBER: 60/
EARLIER FILING DATE: 1998-03-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EARLIER FILING DATE: 1998-03-19
EARLIER APPLICATION NUMBER: 60/078,576
EARLIER FILING DATE: 1998-03-19
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                                                                                                                                                                                                                    NAME/KEY: SITE LOCATION: (38) OTHER INFORMATION:
                                                                                                                                                                                                  FEATURE
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                                                                                                                                                                                                                                                                                                           ORGANISM: Homo
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Score 41; DB 1; L
Pred. No. 1.7e+02;
2; Mismatches 0;
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Pred. No.
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                                             Length 114;
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Perfect score:
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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DB
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Listing first 45 summaries
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Gapop 10.0 , Gapext 0.5
                                                                                   : //cgn2_6/ptodata/2/paa/VCTUS_COMB.pep:*
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    //cgn2_6/ptodata/2/paa/US06_COMB.pep:*
    //cgn2_6/ptodata/2/paa/US080_COMB.pep:*
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Copyright (c) 1993 - 2000 Compugen
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| 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | <u>3</u> 5 | 34 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 |
|-------------------|-------------------|-------------|-------------|-----------|-------------------|-----|-------------|---------|----------|------------|---------|-----------------|--------|-----------------|--------------------|-----------------|-------------|-----|---------------------|-------------------|----------------------|--------------------|--------|-----|------|--------------|----------|-------------------|------------------|---------|-----------|-----------------|---------------|--------------------|
| 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | | 7. | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 39 | 39 | 39 | 39 | 40 | 40 |
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| 1069 | 778 | 443 | 313 | 239 | 213 | 110 | 12 | 12 | 45 | 45 | 609 | 550 | 452 | 399 | 399 | 399 | 360 | 340 | 200 | 117 | 114 | 112 | 112 | 50 | 50 | 50 | 29 | 29 | 310 | 103 | 77 | 19 | 449 | 345 |
| 1 | 12 | 16 | 23 | 18 | 18 | 23 | 13 | 13 | 22 | 17 | 16 | 19 | 16 | 23 | 23 | 23 | 17 | 19 | 18 | _ | Н | 16 | Н | 23 | 19 | 16 | 17 | 14 | 16 | 18 | 23 | 19 | 15 | 23 |
| PCT-US00-10644-10 | -808-80- | -09-252-991 | -60-205-306 | 9-417-507 | -09-417-507 | 6 | -08-926-808 | -08-926 | -09-817- | -09-307 | -09-252 | us-09-515-038-1 | -09 | -60-269-308-459 | US-60-257-931-3571 | -60-253-625-274 | -09-372-348 | σ | US-09-417-507-31611 | PCT-US00-26323-70 | PCT-US01-01354-12711 | US-09-209-462B-135 | 5-1 | 9 | 6 | -09-215-435- | -09-359- | | -09-252-991A-279 | 17-507- | 0 - 185 - | US-09-527-522-5 | -09-134-000-4 | US-60-191-637-7407 |
| 10, | Sequence 5, Appli | 3003 | | 4163 | Sequence 31491, A | 15 | 5 | | 10 | 10 | 24893 | 1, A | 24195, | 4593 | 3571, | 27 | | | æ | | 1271 | e 135 | 130, / | 194 | 378, | 154, | 14, | Sequence 48, Appl | | 40482 | 92 | | 494 | Sequence 7407, Ap |

ALIGNMENTS

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APPLICANT: Strauss, Hans Josef
APPLICANT: GAO, Liquan
TITLE OF INVENTION: Immunotherapeutic Method
TITLE OF INVENTION: Immunotherapeutic Method
TITLE OF INVENTION: GATA-1
FILE REFERENCE: ICI 101
CURRENT APPLICATION NUMBER: U$/09/625,963
CURRENT FILLING DATE: 2000-07-26
PRIOR APPLICATION NUMBER: PCT/GB99/03572
PRIOR FILING DATE: 1999-11-02
PRIOR APPLICATION NUMBER: GB9823897.5
PRIOR APPLICATION NUMBER: GB9823897.5
PRIOR FILING DATE: 1998-11-02
NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 3
LENGTH: 10
TYPE: PRT
ORGANISM: Homo Sapiens
US-09-625-963-3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3, Application US/09625963 GENERAL INFORMATION:
                                                                                Query Match
Best Local Similarity
Matches 10; Conserv
                     1 HLMPFPGPLL 10
1 HLMPFPGPLL 10
                                                                                100.0%; Score 58; DB 20; ilarity 100.0%; Pred. No. 0.038; Conservative 0; Mismatches 0;
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                                                                                                                       Length 10;
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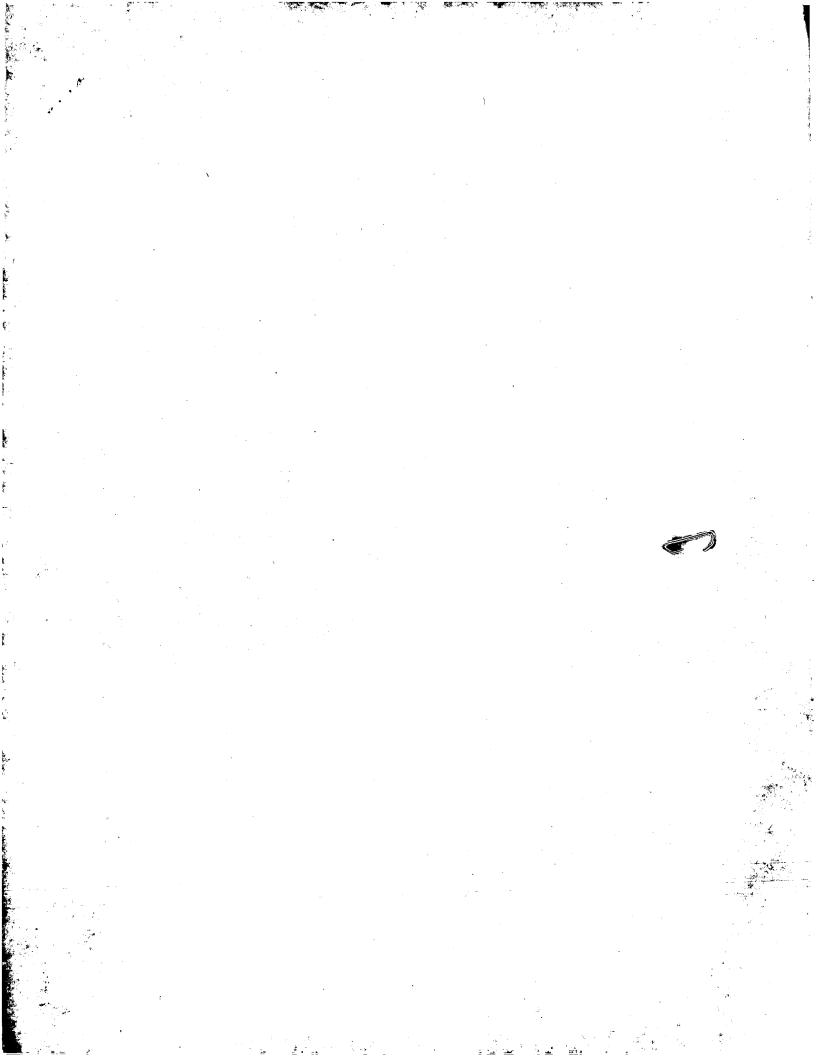
SUMMARIES

100.0 100.0 75.9 72.4 70.7 70.7 70.7 70.7 70.7 69.0 69.0

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20 US-09-625-963-3 19 US-09-519-012-3 10 PCT-US01-0136-15768 10 US-09-252-991A-27500 11 PCT-US99-05804-111 12 US-09-739-449-9641 12 US-60-167-217-7726 13 US-60-167-3464-6181 13 US-60-167-217-7501

Sequence 3, Appli Sequence 15768, A Sequence 15768, A Sequence 27500, A Sequence 111, App Sequence 9641, App Sequence 964, App Sequence 964, App Sequence 97501, Ap



Length 778;

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RESULT 1
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ID AAB3
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Best Local S
Matches 6
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         AAB36839;
                           AAB36839 standard;
                                                                                                                                                                                                               The present invention relates to mouse trophinin sequence (see AAB23367). Mouse trophinin is used as a vaccine for preventing pregnancy in an individual by eliciting an immune response against trophinin that blocks embryo implantation. Due to the limited expression of trophinin, an anti-trophinin immune response is less toxic than other prior art anti-pregnancy vaccines directed to peptide hormones. The present sequence is human tastin. Tastin is a
                                                                                                                                                                                                                                                                                                                       Novel nucleic acid sequence encoding mouse trophinin, for producing trophinin vaccine useful to prevent pregnancy in an individual by eliciting an immune response which blocks embryo implantation -
                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US6111089-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Trophinin; vaccine; contraceptive; mouse; human;
                                                                                                                                                                                                                                                                                                    Disclosure; Column 57-62; 57pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                    Fukuda MN;
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12-MAY-1995;
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                                                                                                                                                                                                      trophinin-assisting protein.
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95US-0439818
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                               Protein; 1069 AA
                                                                                                                                      63.8%;
66.7%;
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Pred. No.
                                                                                                                         Score 37; DB Z1; L
Pred. No. 2.2e+02;
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2.2e+02;
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Search completed:
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Best Local
                                                                                                                                                                                                    The present invention relates to insulin receptor-related receptor (IRRR). Mutations in this gene indicate a chromosome 1q21-q24 abnormality. IRRR polypeptides and DNA may be useful in the diagnosis of disorders associated with abnormal expression of the IRRR protein, for example obesity, dyslipidemia and diabetes.
                                                                                                                                                                                                                                                                                                                         Detecting a chromosome 1q21-q24 abnormality disease, such as human obesity and diabetic examining insulin receptor-related receptor
                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                    Claim 21; Page 94-97; 111pp; English.
                                                                                                                                                                                                                                                                                                                                                                                WPI; 2000-687365/67.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-NOV-2000.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Insulin receptor-related receptor; IRRR;
obesity; dyslipidemia; diabetes.
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                                                                                                                                                                                                                                                                                                                                                                                                                                  (ZYMO ) ZYMOGENETICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            22-APR-1999;
22-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Protein sequence associated with IRRR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19-APR-2000; 2000WO-US10644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rattus rattus
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                                                             406 hhlpwpapll 415
                                                                              1 HLMPFPGPLL 10
                                                                                                                                                                                                                                                                                                                                                                                                         Whitmore TE;
                                                                                                                Similarity 6; Conserv
                                                                                                                                                                                1069 AA;
                                                                                                                  Conservative
           October 23, 2001, 13:21:03
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990S-0337976
                                                                                                                             63.8%;
                                                                                                                           Score 37;
Pred. No.
                                                                                                                Mismatches
                                                                                                                DB 21; 1
3.1e+02;
thes 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     chromosome 1q21-q24;
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                                                                                                                                         Length 1069;
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214 mpfpgp
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                                                                                                                                                                                                                                                                                                                  suppressor;
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implantation; infertility; cell adhesion; therapy; diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 100 6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                 standard;
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234
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177
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98
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129
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Pred. No.
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proteins can function to segregate trophinin molecules (see also ARR94895) into clusters on the apical plasma membrane. They can bused to improve trophinin-mediated cell adhesion, e.g. to minimise embryo implantation failure. Tastin is probably a cytoplasmic protein and shows no overall significant homology to reported
                                                                                  Human trophinin-assisting proteins tastin (AAR94900), bystin (AAR949) and lastin (AAR94903) are the products of 3 cDNA clones (AAT18677-79 respectively). Expression of these proteins is required by a cell to effect trophinin-mediated cell adhesion. The trophinin-assisting
                                                                                                                                                           Mammalian trophinin and trophinin-assisting protein - used inhibiting or enhancing embryo implantation, diagnosis of infertility and treatment of cancer
                                                                                                                                       Claim 24; Fig 6; 106pp; English.
                     protein
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N-PSDB; AAT18677.
                                                                                                                                                                                                                                        Fukuda
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04-OCT-1994;
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3 cDNA clones (AAT18677-79,
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Sequence

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                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 6; Conserv
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12-AUG-1998;
18-AUG-1998;
xanthophyll biosynthesis; Capsicum; pepper; red food colourant;
                                          CapSanthin-capsorubin synthase from Capsicum annuum.
                                                                                                                      AAR82242
                                                                                                                                                        AAR82242 standard; Protein; 498 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                              responses in which T cell activation, expansion, and/or immunological T cell memory play an important role. Sequences AAY77470-Y77473 represent human deubiquitinating proteins (Dub). AAY77470-Y77471 encode Dubl1 proteins and AAY77472-Y77473 encode Dubl2 proteins.
                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
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                                                                                  10-APR-1996
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DB; AAZ92413.
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Mahony D,
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                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                  (first entry)
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98US-0114466.
98US-0093897.
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98US-0136214
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100.0%; Pred. No.
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RESULT 1
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Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The capsanthin-capsorubin synthase (CCS) enzyme was isolated from the chromoplast membrane fraction of Capsicum annuum (pepper). The bifunctional enzyme catalyses conversion of the ubiquitous 5,6-epoxy carotenoids, antheraxanthin and violaxanthin, into capsanthin and capsorubin, respectively. These xanthophylls are used as food capsorubin, and the colour of petals, leaves, fruits, etc. of colourants. Also the colour of petals, leaves, fruits, etc. of
WPI; 1999-378998/32
N-PSDB; AAX78033.
                                                                                                                                                                                             Cysteine protease; cysteine protease-like
                                                                                                                                                                                                                      S. peregrina cysteine protease-like protein
                                                                                                                                                                                                                                                                          AAY08899;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA construct for modifying carotenoid production in plants comprises sequences homologous to xanthophyll biosynthetic
                                     (UYTY ) UNIV TOKYO.
                                                                18-NOV-1997;
                                                                                        18-NOV-1997;
                                                                                                                  02-JUN-1999
                                                                                                                                            JP11146789-A.
                                                                                                                                                                   Sarcophaga peregrina.
                                                                                                                                                                                                                                                  20-AUG-1999
                                                                                                                                                                                                                                                                                                     AAY08899 standard; protein; 550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             plants transformed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          degradative enzyme encoding sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; AAT03851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1995-320578/41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Camara B, Kuntz M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-MAR-1994;
01-MAR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17-FEB-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Capsicum annuum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5,6-epoxycarotenoid; bifunctional enzyme; CCS; chromoplast membrane.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (CNRS ) CENT NAT RECH SCI.
                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity les 7; Conserv
                                                                                                                                                                                                                                                                                                                               12
                                                                                                                                                                                                                                                                                                                                                                     5 lkpfpspll 13
                                                                                                                                                                                                                                                                                                                                                                                              2 LMPFPGPLL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Fig 3; 49pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of the xanthophylls.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       498 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                (first entry)
                                                             97JP-0333474
                                                                                        97JP-0333474.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       94EP-0400626
94GB-0003943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95WO-EP00584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           by DNA coding for the CCS enzyme can be modified
                                                                                                                                                                                                                                                                                                                                                                                                                                    65.5%;
77.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 38;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 16; Length 498;
                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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RESULT
AAW78145
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
02-CCT-1997
13-JUN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; secreted protein; fusion protein; gene therapy; protein therapy; diagnosis; tissue; cancer; tumour; neurodegenerative disorder; leukaemia; developmental abnormality; foetal deficiency; blood; allergy; renal; immune system; asthma; lymphocytic disease; brain; hepatic; lymphoma; inflammation; ischaemic shock; Alzheimer's disease; restenosis; AIDS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           proteins obtained may have cytokine activity, cell proliferation/differentiation activity, haematopoissis regulating activity, tissue growth regulating activity, reproductive hormone regulating activity, chemotactic/ chemokinetic activity, haemostatic and thrombolytic activity, receptor/ ligand activity, anti-inflammatory activity, tumour inhibition activity or other activities. The products can be used in forensic, gene therapy and chromosome mapping procedures. The sequences can also be used for obtaining corresponding promoter sequences. The nucleic acids encoding the signal peptide can be used for directing extracellular secretion of a polypeptide or the insertion of a polypeptide or the insertion of a polypeptide.
                                                                                                                                                                                                                                                                                     11-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                cognitive disorder; schizophrenia; prostate; obesity; osteoclast; thyrosteoporosis; arthritis; testis; lung; thyroiditis; thyroid; digestion endocrine; metabolism; regulation; malabsorption; gastritis; neoplasm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW78145 standard; Protein; 112 AA.
                                                                                                                                                                                                                                                                                                                   17-DEC-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                WO9856804-AJ
                                                                                                                                                                                                                                                                                                                                                                                            Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                polypeptide into a membrane, or importing a polypeptide into a cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      50 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
970S-0049548.

970S-0049549.

970S-0049606.

970S-0049607.

970S-0049609.

970S-0049610.

970S-004961.

970S-004961.

970S-005966.

970S-005966.

970S-005989.

970S-005984.

970S-0058668.
                                                                                                                                                                                                                                        97US-0061060
97US-0049547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein encoded by gene
                                                                                                                                                                                                                                                                                     98WO-US12125
                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers 112
                                                                                                                                                                                                                                                                                                                                                                              /label= unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           65.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20 clone HSKZE52.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  osteoclast; thymus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   digestion;
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RESULT 1 AAY77470

10

AAY77470 standard; Protein;

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|:||||| 77 lvpfpgp

83 8

2 LMPFPGP

Query Match Best Local S Matches 6

6; Conserv

Conservative

85 5

. 78;

Score 38; DB: Pred. No. 22; 1; Mismatches

20; 0

Length 112; Indels

0

0

Human; deubiquitinating protein; Dubl1; Dubl2; immune disorder; inflammation; allergy; immunosuppressant; antiarthritic; antirheumatoid; antiinflammatory; dermatological; antithyroid.

Human deubiquitinating protein Dubll,

SEQ ID NO: 32.

(first entry)

WO200001817-A2

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02-OCT-1997;
02-OCT-1997;
02-OCT-1997;
02-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12-SEP-1997;
12-SEP-1997;
12-SEP-1997;
12-SEP-1997;
12-SEP-1997;
12-SEP-1997;
02-OCT-1997;
                                        protein as compared to the human protein only.

The invention relates to 86 novel genes and their fragments (nucleic acid sequences: AAX04311-X04410; amino acid sequences AAX0825) which are useful for preventing, treating or ameliorating medical conditions e.g. by protein or gene therapy. Also, pathological conditions can be diagnosed by determining the amount of the new polypeptides in a sample or by determining the presence of mutations in the new polynucleotides. Specific uses are described for each of the 86 polynucleotides, based on which tissues they are most highly expressed
                                                                                                                                                                        This sequence represents a secreted human protein encoded by the gene clone detailed in the descriptor line. The gene can be used to generate fusion proteins by linking to the gene to a human immunoglobulin Fc portion (e.g. AAX04302) for increasing the stability of the fused
                                                                                                                                                                                                                                                                            New isolated human genes and the secreted polypeptides they encode useful for diagnosis and treatment of e.g. cancers, neurological disorders, immune diseases, inflammation or blood disorders
Sequence
                                                                                                                                                                                                                                                 Claim 11; Page 272; 380pp; English.
                                                                                                                                                                                                                                                                                                                                         N-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                                   Brewer LA,
Moore PA,
                                                                                                                                                                                                                                                                                                                                                                                                                                               (HUMA-)
                                                                                                                                                                                                                                                                                                                                         1999-080881/07.
DB; AAX04330.
                              AAX04311 for
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   112
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Ni J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97US-0060841.
97US-0060844.
97US-0060865.
97US-0061059.
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97US-00589750.
97US-0058971.
97US-0058972.
97US-0058975.
97US-0060834.
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Olsen
                              described uses).
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sen HS,
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Rosen
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n CA,
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, Ruben
                                                                                                                                                                                                                                                                                                                                                                                                   Greene JM,
ben SM, Shi
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RESULT
AAY35905
      PRESENTATION OF THE PRESEN
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Best Local
    Claim 9;
                                         New isolated human secreted proteins
                                                                                                                                                       Bougueleret L,
                                                                                                                                                                                                                                              09-FEB-1998;
13-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY35905;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY35905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present sequence is a peptide used to design PCR primers used during the identification of the coding sequence for a protein from Mycobacterium aurum which acts as a biocatalyst. The protein is able to catalyse transamination stereoselectively to produce an optically active
                                                                                                                                                                                                                                                                                       10-AUG-1998;
17-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                   24-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                            WO9931236-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 genetic disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Secreted protein; human; cytokine; cellular proliferation; cell movem cellular differentiation; immune system regulator; anti-inflammatory; haematopoiesis regulator; tissue growth regulator; tumour inhibitor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Extended
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13-SEP-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Takashima Y,
                                                                                                                                                                                                  (GEST )
                                                                                                                                                                                                                                                                                                                                                     17-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel Mycobacterium selectively, useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (SUMO ) SUMITOMO CHEM CO LTD
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30-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 reproductive hormone regulator; chemotaxis; chemokinesis; gene therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -
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                                                                                                             1999-385906/32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hlmdepgpli 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      compound.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               l Similarity
7; Conserv
                                                                                                                                                                                                    GENSET
                                                                                         AAX97589
  Page 186-187;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human secreted protein sequence, SEQ ID NO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ρ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mitsuda
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97US-0069957.
98US-0074121.
98US-0081563.
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99JP-0088634.
                                                                                                                                                                                                                                                                                                                                                       98WO-IB02122
                                                                                                                                                       Duclert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                67.2%;
70.0%;
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516pp; English
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                                                                                                                                                         Dumas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 39;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A
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                                                                                                                                                       Milne Edwards
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               154.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cell movement;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
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Best Local S
Matches 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This sequence is encoded by an extended human secreted protein coding sequence of the invention. The secreted proteins can be used in treating or controlling a variety of human conditions. The secreted proteins may act as cytokines or may affect cellular proliferation or differentiation or may act as immune system regulators, haematopoiesis regulators, tissue growth regulators, regulators of reproductive hormones or cell movement or have chemotactic/chemokinetic, receptor/ligand, anti-inflammatory or tumour inhibition activity. The DNAs can be used in forensic procedures to identify individuals or in diagnostic procedures to identify individuals or in diagnostic procedures to identify individuals or the extended cDNAs. They are also useful for constructing a high resolution map of the human chromosomes. They can also be used for gene therapy to control or treat genetic diseases.
                               AAX51787 to AAX52019 represent 5' expressed sequence tags (ESTs) for human secreted proteins, and encode the proteins given in AAX12987 AAX13219, respectively. The proteins given represent the signal per and an N-terminal fragment of a secreted protein. The nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; secreted protein; EST; expressed sequence tag; diagnosis; forensic; gene therapy; chromosome mapping; signal peptide; upstream regulatory sequence; cytokine activity; cell proliferation; differentiation; haematopoiesis regulation; tissue growth regulation;
                                                                                                                                      New isolated brain-derived nucleic acids - used to develop products which may have cytokine, immune, regulatory, haematopoiesis regulating, anti-inflammatory or tumour inhibition activity
                                                                                                                                                                                                    N-PSDB;
                                                                                                                                                                                                                                              Duclert A,
                                                                                                                                                                                                                                                                                                         01-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          reproductive hormone regulation; thrombolytic; anti-inflammatory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY13094 standard;
                                                                                                                                                                                                                                                                                                                                       31-JUL-1998;
                                                                                                                                                                                                                                                                                                                                                                     11-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                 WO9906552-A2
                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human secreted protein encoded
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAY13094;
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                                                                                                                                                                                                                                                                           (GEST ) GENSET
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                                                                                                                                                                                                                  1999-153782/13
                                                                                                                                                                                                    AAX51894
                                                                                                         Page 501; 577pp;
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                                                                                                                                                                                                                                              Dumas Milne
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70.0%;
                                                                                                                                                                                                                                              Edwards J,
                                                                                                         English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            tumour inhibition.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        chemotactic; chemokinetic;
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No.
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                                               n in AAY12987 to
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                                             peptide
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Best Local S
Matches 6
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Best Local :
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25-DEC-1991;
01-SEP-1992;
                                                                                                                                                                                                       The sequences given in AAR53607-26 are peptides which have opioid activity. These peptides are produced by hydrolysing lactoprotein with neutral protease derived from alkali protease. The peptides and their salts are useful as analgesics, hypnotics, gastrointestinal hormone stimulating agents, electrolyte adsorption stimulating agents, diarrhoea treating agents, etc. The peptide given in AAR53608 shows lower opioid activity and is therefore expected to be used as processe.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Opioid; activity; hydrolysis; lactoprotein; neutral protease; alkali protease; gastrointestinal hormone stimulating agents; analgesics; hypnotics; electrolyte adsorption stimulating agents;
             AAR53622 standard;
                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                 Disclosure;
                                                                                                                                                                                                                                                                                                                       diarrhoea
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                                                                                                                                                                                                                                                                                                                                                                   WPI; 1994-188987/23.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-NOV-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-MAY-1994.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JP06128287-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mammalian.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  diarrhoea treating agents; drug.
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nes 6; Conserv
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                                                                                                                                                                                                                                                                                                 Page 13; 15pp; Japanese.
                                                                                                                Conservative
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91JP-0356633.
92JP-0255403.
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             peptide;
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85.7%;
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75.0%;
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Pred. No. 1.1;
2; Mismatches
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Pred. No. 3.4e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Opioid; activity; hydrolysis; lactoprotein; neutral protease; alkali protease; gastrointestinal hormone stimulating agents; analgesics; hypnotics; electrolyte adsorption stimulating age
                                                                                                            Stereoselective transamination catalyst gene PCR primer peptide #3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-NOV-1991;
25-DEC-1991;
 14-MAR-2000; 2000EP-0400701.
                     27-SEP-2000.
                                                                Mycobacterium
                                                                                      Transamination;
                                                                                                                                  15-JAN-2001
                                                                                                                                                         AAB26103;
                                                                                                                                                                              AAB26103
                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                        drug.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-SEP-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      diarrhoea treating agents; drug.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New opioid peptide(s) and their salts - are used as analgesic, for stimulating e.g. electrolyte absorption and treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (NISS ) NISSHIN FLOUR MILLING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-NOV-1992;
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                                                                                                                                                                              standard; Protein;
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91JP-0356633.
92JP-0255403.
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                                                                                      optically active amino compound;
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85.7%;
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Pred. No.
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cancers, neurological disorders, disorders
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19-MAR-1998;
19-MAR-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; secreted protein; fusion protein; gene therapy; protein therapy; diagnosis; tissue; cancer; tumour; neurodegenerative disorder; leukaemia; developmental abnormality; foetal deficiency; blod; allergy; renal; immune system; asthma; lymphocytic disease; brain; hepatic; lymphoma; inflammation; ischaemic shock; Alzheimer's disease; restenosis; AIDS;
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19-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cognitive disorder; schizophrenia; prostate; obesity; osteoclast; thymu osteoporosis; arthritis; testis; lung; thyroiditis; thyroid; digestion;
                                                                                                                                                                                                                                                                                            (HUMA-) HUMAN GENOME SCI INC
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98US-0078577.
98US-0078578.
98US-0078579.
98US-0078581.
98US-0080312.
98US-0080313.
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98US-0078573.
98US-0078574.
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חומח RD,
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                                               for diagnosis and treatment of e immune diseases, inflammation or
                                                                                                                                                                                                                     Young PE,
H, Ebner
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            clone detailed in the descriptor line. The gene can be used to generat fusion proteins by linking to the gene to a human immunoglobulin FC portion (e.g. AAZ24802) for increasing the stability of the fused protein as compared to the human protein only.

The invention relates to 95 novel genes and their fragments (nucleic acid sequences: AAZ24811-Z24907; amino acid sequences AAY41308-Y41404) which are useful for preventing, treating or ameliorating medical conditions e.g. by protein or gene therapy. Also, pathological conditions can be diagnosed by determining the amount of the new polynucleotides. Specific uses are described for each of the 90lynucleotides, based on which tissues they are most highly expressed (see AAZ24811 for described uses).
                                                                        The present sequence represents an angiotensin converting enzyme (Ac peptide inhibitor. The peptide can be used to decrease blood pressure and inhibit activation of bradykinin and is useful for the preventic or treatment of essential, renal or adrenal hypertension. The peptid is also useful for treatment of increasing the threshold value in angina pectoris, myocardial infarction, or congestive heart failure.
                                                                                                                                                                                                                                                                    Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim
                                                    It is also applicable
                                                                                                                                                                                                                                                                                                                         decrease blood
                                                                                                                                                                                                                                                                                                                                                    Angiotensin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-JAN-1996;
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                                                                                                                                                                                                                                                                 Page 6; 8pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Page 360; 484pp; English.
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                                                          as an additive to health
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7.2;
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                                                          food or functional foods
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of bradykinin
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GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd

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Result
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Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                         score greater than
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 100.0
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| AAR53615 | AAR53614 | AAR53613 | AAR26795 | AAR26794 | AAR26793 | AAR53626 | AAB74637 | AAY49371 | AAR53623 | AAR53416 | AAR27171 | AAP50912 | AAY49376 | AAW23717 | AAW22607 | AAB66118 | AAY99369 | AAY77113 | AAB44492 | AAY29515 | AAY87970 | AAY87971 | AAB63952 | AAY87972 | AAY74068 | AAR26797 | AAR26798 | AAR26796 | AAB65656 | AAB36839 | AAB23359 | 9 | AAY08899 | |
| peptide | peptide # | peptide | | | Prolyl endopeptida | Opioid peptide #20 | Milk protein fragm | Beta-casomorphin d | | having | e of | Sequence of morphi | \mathbf{H} | | nolide syn | Protein of the inv | PRO124 | Ç) | | Human lung tumour | s | Pseudomonas sp. HR | at | omonas sp. | σ | _ | _ | 1 endoper | ηď | in seque | Human tastin prote | | S. peregrina cyste | |

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AAY94204 standard; peptide; 10

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28-JUL-2000

(first entry)

Human cytotoxic T lymphocyte-recognised gata-1 peptide hug 378-87.

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ID AAYS
XX AAYS
AC AAYS
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DT 28-J
XX Humm
XX Hug
KW Hug
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XX WO2(
XX WO2(
XX O2-)
PT 02-1
XX O2-1
                                            Claim 3; Page 74; 93pp; English.
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transcription factor.
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RP SUBLINE-98344137; PubMed-9679194;

RX MEDLINE-98344137; PubMed-9679194;

RA KAWATABAYASI Y., SAWADA M., HORIKAWA H., HAIKAWA Y., HINO Y.,

RA KAWATABAYASI Y., SAWADA M., HORIKAWA H., HAIKAWA Y., HINO Y.,

RA YAMAMOTO S., SEKINE M., BADA S.-I., KOSU9i H., HOSOYAMA A., NA9AI Y.,

RA YAMAMOTO S., SEKINE M., BADA S.-I., KOSU9i H., HOSOYAMA A., NA9AI Y.,

RA YAMAMOTO S., SEKINE M., BADA S.-I., TAKAMIYA M., OHIUKU Y.,

RA YAMAMOTO S., SEKINE M., BADA S.-I., TAKAMIYA M., OHIUKU Y.,

RA KARAMIYA Y., TARAMIYA Y., ROBD F.T., HORIKOSHI K.,

RA AOKI K.-I., YOSHIZAWA T., NAKAMURA Y., ROBD F.T., HORIKOSHI K.,

RA AOKI K.-I., YOSHIZAWA T., NAKAMURA Y., ROBD F.T., HORIKOSHI K.,

RA AOKI K.-I., YOSHIZAWA T., NAKAMURA Y.,

RA PUNDABAH Y., NAKAMURA Y.,

RA PUNDABAH Y., NAKAMURA Y., NAKAMURA Y.,

RA PUNDABAH Y., NAKAMURA Y.,

RA PUNDABAH Y., NAKAMURA Y., NAKAMURA Y., NAKAMURA Y.,

RA PUNDABAH Y., NAKAMURA Y., NAKAMURA Y., NAKAMURA Y.,

RA PUNDABAH Y., NAKAMURA Y., NAKAMURA Y., NAKAMURA Y.,

RA MASUCHI Y., NAKAMURA Y., NAKAMURA Y., NAKAMURA Y., NAKAMURA Y.,

RA MASUCHI Y., NAKAMURA Y.,
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RESULT
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X MEDLINE-98049343; PubMed-9389475;

X KELTHE-P8049343; PubMed-9389475;

A Klenk H.-P., Clayton R.A., Tomb J.-F., White O., Nelson K.E.,

A Ketchum K.A., Dodson R.J., Gwinn M., Hickey E.K., Peterson J.D.,

A Richardson D.L., Kerlavage A.R., Graham D.E., Kyrpides N.C.,

A Richardson D.L., Quackenbush J., Lee N.H., Sutton G.G., Gill S.,

A Kirkness E.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B.

A Kirkness E.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B.

A Peterson S., Reich C.I., McNeil L.K., Badger J.H., Glodek A., Zho

A Peterson S., Reich C.I., McNeil L.K., Badger J.H., Glodek A., Zho

A Poetbeek R., Gocayne J.D., Weidman J.F., McDonald L., Utterback T.

A Cotton M.D., Spriggs T., Artiach P., Kaine B.P., Sykes S.M.,

Sadow P.W., D'Andrea K.P., Bowman C., Fujii C., Garland S.A.,

A Mason T.M., Olsen G.J., Fraser C.M., Smith H.O., Woese C.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
Best I
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01 -MAY -2000
01 -MAR -2001
                                                                                                                                                                                                                                                                                                GMP
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01-JAN-1998 (TrEMBLrel.
01-MAY-2000 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Homeobox genes and nervous development.";
Thesis (1999), Nara Institute of Science and Technology.
-!- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).
-!- SIMILARITY: TO OTHER HOMEOBOX DOMAINS.
EMBL; AB026674; BAA85852.1; --
EMBL; AB026671; BAA85852.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse).
Mus musculus (Mouse).
'Troota; Metazoa; Chordata;
'Toria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA-binding; Homeobox; Nuclear SEQUENCE 562 AA; 58215 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PRO0308; ANTIFREEZEI.
PROSITE; PS00027; HOMEDBOX_1;
PROSITE; PS50071; HOMEDBOX_2;
SMART; SM00389; HOX; 1
                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                          NCBI_TaxID=2234;
                                                                                                                                                                                                                                        Archaeoglobus
                                                                                                                                                                                                                                                    Archaeoglobus fulgidus.
Archaea; Euryarchaeota;
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complete genome
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O (TrEMBLrel.)
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85.7%;
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16,
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Last sequ
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Last annotation updat
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of the hyperthermophilic, sulphate-
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Sciurognathi; Muridae;
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A64AEA1C351FC302
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; Murinae; Mus
                                                                  Odek A., Zhou
Utterback T.,
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As Shukla H.D., Lasky S.R., Baliga N.S., Thorsson V., Sbrogna J.,
As Swartzell S., Weir D., Hall J., Dahl T.A., Welti R., Goo Y.A.,
As Leithauser B., Keller K., Cruz R., Danson M.J., Hough D.W.,
As Maddocks D.G., Jablonski P.E., Krebs M.P., Angevine C.M., Dale H.,
As Alam M., Freitas T., Hou S., Daniels C.J., Dennis P.P., Omer A.D.,
As Alam M., Freitas T., Hou S., Daniels C.J., Dennis P.P., Omer A.D.,
As Chine G. M., Liang P., Riley M., Hood L., DasSarma S.,
T. "Genome sequence of Halobacterium species NRC-1.";
Proc. Natl. Acad. Sci. U.S.A. 97:12176-12181(2000).

EMBL; AE005084; AAG20037.1; -.

InterPro; IPR001674; -.

R Pfam; PF00958; GMP_synt_C; 1.

SEQUENCE 305 AA; 33724 MW; D47A25946A0869ED CRC64;
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Best Local
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EMBL; AE001088; AAB90977.1; -.
HSSP; P04079; 1GPM.
TIGR; AF0253; -.
Archaea; Euryarchaeota; NCBI_TaxID=53953;
          Pyrococcus horikoshii.
Archaea; Euryarchaeota
                                                         01-AUG-1998
01-JUN-2000
                                                                                059072;
01-AUG-1998
                                                                                                       059072
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01-MAR-2001
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Pfam; PF00958; GMP_synt_C;
                                               308AA LONG
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-MAR-2001 (TrEMBLrel. 1
-MAR-2001 (TrEMBLrel. 1
-MAR-2001 (TrEMBLrel. 1
P SYNTHASE SUBUNIT B
AAB OR VNG1829G
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98 (TrEMBLrel.
00 (TrEMBLrel.
3 HYPOTHETICAL
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303 AA; 3
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                                                                                                       PRELIMINARY;
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100.0%; Pr
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GMP
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16,
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Halobacteriales; Halobacteriaceae;
            Thermococcales;
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Last sequence update)
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Last annotation update)
SYNTHASE.
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Pred. No.
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62;
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61;
             Thermococcaceae;
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             Pyrococcus
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162 PFPGPLI 168

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Best Local Similarity
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Best Local Similarity
Matches 6; Conserv
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01-OCT-2000
01-MAR-2001
                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN-CV. TEQING; TISSUE-LEAF;
Qu L., Gu H., Liu M., Li D., Zhu G., Li N., Pan N., Chen Z.;
Qu L., Gu H., Liu M., Li D., Zhu G., Li N., Pan N., Chen Z.;
Molecular cloning, expression pattern and evolution of rice
Birk trypsin inhibitor gene family,";
Submitted (APR-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ277468; CAB88208.1; -.
InterPro; IPR000877; -.
InterPro; IPR000877; -.
InterPro; IPR000877; -.
InterPro; IPR00287; Bowman-Birk_leg; 2.
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01-NOV-1996 (TrEMBLrel. 01, Last sequence up
01-MAY-2000 (TrEMBLrel. 13, Last annotation
ENVELOPE PROTEIN GP20E (FRAGMENT).
Simian SRV-like type D retrovirus.
Viruses; Retroid viruses; Retroviridae; Type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Oryza sativa (Rice).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; Liliopsida; Poales; Poaceae; Ehrhartoideae; Oryzeae;
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MEDLINE-99176553; PubMed-7871741;
Grant R.F., Widdsor S.K., Malinak C.J.,
Benveniste R.E., Tsai C.;
                                                                                                                                                                                                               PROSITE; PS00281; BOWMAN_BIRK; SMART; SM00269; BOWB; 1.
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NON_TER 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Virology 207:292-296(1995).
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132 YLLPFLGPLL 141
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4 PFPGPLL 10
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                                                                     Conservative
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20975 MW;
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Pred. No.
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                                                                Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Type D retroviruses
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on update)
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                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 190;
                                                                                                             Length 251;
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B
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                             Q9QYT4
   AC
AC
                                          RESULT
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T "EXPRESSION OF A NOVEL ATISTALESS TELATED HOMEODOX GENE 'ATX' IN THE TEXPRESSION OF A NOVEL ATISTALESS TELATED HOMEODOX GENE 'ATX' IN THE TEXPRESSION OF A NOVEL PHANE A ROLE IN THE NEURONAL DIFFERENTIATION OF THE GANGLIONIC EMINENCE AND VENTRAL HALAMUS.

SYSTEM DEVELOPMENT. MAY HAVE A ROLE IN THE FLOOR PLATE.

SYSTEM DEVELOPMENT. MAY HAVE A ROLE IN THE FLOOR PLATE.

SYSTEM DEVELOPMENT. MAY HAVE A ROLE IN THE FLOOR PLATE.

TISSUE SPECIFICITY: EXPRESSED IN BRAIN.

C -!- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).

C -!- TISSUE SPECIFICITY: EXPRESSED AT 10H AND LIA IN DIENCEPHALON.

C -!- DEVELOPMENTAL STAGE: EXPRESSED AT 10H AND LIA IN DIENCEPHALON. LATER EXPRESSED TRANSIENTLY AT 12H IN CAUDAL TELENCEPHALON. LATER EXPRESSED IN FLOOR PLATE AND SOMITES, FOLLOWED BY ROSTVAL TELENCEPHALON AND VENTRAL THALAMUS. EXPRESSED AT 40H IN
                                                                                                                                              Matches
                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          042115
042115;
01-JAN-1998
01-JAN-1998
01-MAR-2001
Q9QYT4;
                                                                                                                                                                                                                                                                                                                                                                                                         -!- DOMAIN: A 14 AMINO ACID MOTIF (OAR-DOMAIN) IS CONSERVED AMONG SEVERAL HD PROTEINS. MAY BE INVOLVED IN ADDITIONAL DNA-BINDING (OUTSIDE THE HD-DNA INTERACTION) OR MAY BE A SITE OF PROTEIN-PROTEIN INTERACTION. IT COULD HAVE A ROLE IN TRANSACTIVATION.
-!- SIMILARITY: BELONGS TO THE PAIRED FAMILY OF HOMEOBOX PROTEINS.
EMBL, ABOO6104; BAA21764.1; -.
HSSP; P06601; 1ETL.
EFIN; ZDB-GENE-990415-15; arx.
InterPro; IPR001356; -.
                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                  PRINTS; PRO0024; HOMEOBOX.1; PROSITE; PS00027; HOMEOBOX_1; PROSITE; PS50071; HOMEOBOX_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Brachydanio rerio (Zebrafish) (Zebra danio).
Eukaryota; Metazoa; Chordata; Craniata; Petebrata; E
Actinopterygii, Neopterygii; Teleostei; Euteleostei;
Cypriniformes; Cyprinidae; Rasborinae; Danio.
                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                           Transcription
                                                                                                                                                                                                                                                                                                                        $MART; SM00389; HOX;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ARISTALESS
                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                DNA_BIND
                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00046; homeobox; 1.
                                                                                                                                                                                                                                                                                                                                                                                             InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-97398450; PubMed-9256348; Miura H., Yanazawa M., Kato K., Kitamura K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-EMBRYO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=7955;
                                                                                                                                                                                                                                                                                                          fomeobox;
                                                                                       285 LPFPGPL 291
                                            12
                                                                                                                 3 MPFPGPL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HYPOTHALAMUS.
                                                                                                                                              6
                                                                                                                                                                                                                                                                                                       DNA-binding; Developmental protein; Nuclear
                                                                                                                                                                                                                                                                                                                                                                                             IPR003654; -.
                                                                                                                                                                                                                      453
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409
215
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               PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
                                                                                                                                                                                                                                                regulation; Activator.
20 327 POLY-AL
09 413 POLY-SE
15 274 HOMEOBO
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                                                                                                                                                            67.2%;
85.7%;
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16,
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                                                                                                                                              1;
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Last annotation update)
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                                                                                                                                                            Score 39;
Pred. No.
                                                                                                                                                                                                                                  OAR DOMAIN.
                                                                                                                                                                                                                                                 HOMEOBOX
                                                                                                                                                                                                                                                               POLY-SER.
                                                                                                                                                                                                                                                                           POLY-ALA.
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                                                                                                                                               Mismatches
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Best Local S
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Best Local S
Matches 6
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Genetics 149:959-970(1998).
Genetics 149:959-970(1998).
In the Determination of the Neuronal Precursors in the Peripheral Nervous System and the Central Nervous System. ALSO INVOLVED IN SEX DETERMINATION AND DOSAGE COMPENSATION (BY SIMILARITY).
In Subunit: Efficient DNA BINDING REQUIRES DIMERIZATION WITH ANOTHER BILL PROTEIN (BY SIMILARITY).

In SUMILARITY: BELONGS TO THE BASIC HELIX-LOOP-HELIX (BHLH) FAMILY OF THE SIMILARITY OF THE BASIC HELIX-LOOP-HELIX (BHLH) FAMILY OF THE BASIC HELIX-L
                                                                                                                                                                         SIMILAR
SEQUENCE
                                                                                                                                                                                                                                                                                                                             EMBL; AB005801; BAA33212
FlyBase; FBgn0012893; Ds
InterPro; IPR001092; -.
InterPro; IPR003015; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Drosophila simulans (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tra
Pterygota; Neoptera; Endopterygota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     077031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (APR-1999) to the EMEL; AL009108; CAAL5674.2; -. FIyBase; FBGQ0001337; 1(1)1Bb. InterPro; IPR001494; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Sequencing the distal X Submitted (DEC-1997) to t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. STRAIN-SIM-5 G20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pterygota; Neoptera; 
Ephydroidea; Drosoph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1998
01-MAR-2001
                                                                                                                                                                                                                                     DNA_BIND
                                                                                                                                                                                                                                                     Neurogenesis;
                                                                                                                                                                                                                                                                           SMART;
                                                                                                                                                                                                                                                                                                                 Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Takano T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-NOV-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                           PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=98278813;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=7240;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rate variation of DNA sequence evolution in the Drosophila
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39
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LPFPGPLM 309
                                    HLMPFPGPLL 10
  HIMPAPSPLI 48
                                                                                                                                                                                                                                                                                                                                                                                        AB005801; BAA33212.1; -.
                                                                                                                                                                                                                                                                                                             PF00010; HLH;
                                                                                                                                                                                                                                                                           SM00353; HLH; 1.
                                                                          Similarity
6; Conserva
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                                                                                                                                                                                                                                                                                         PS00038; HELIX_LOOP_HELIX;
                                                                                                                                                                         346
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(TrEMBLrel. 08,
(TrEMBLrel. 16,
                                                                                                                                                                                             332
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                                                                                                                                                                       112 E
163 H
346 T
38321 MW;
                                                                            tive
                                                                                          69.0%;
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the EMBL/GenBank/DDBJ databases.
                                                                          Score 40; DB Pred. No. 32; 2; Mismatches
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IN SC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                                  n; Developmental protein.

BASIC DOMAIN (BY SIMILARITY).

HELIX-LOOP-HELIX MOTIF (BY SIMILARITY).

TO AC AND SC PROTEINS.

; 1433B75DBCOA534A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tracheata;
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; Brachycera;
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STRAIN-ATCC 15352;
MEDLINE-96316385; PubMed-8702261;
Kawai S., Suzuki H., Yamamoto K., I
"Purification and characterization
"Purification and characterization at the strent of the
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Magnoliophyta; Liliopsida;
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PUTATIVE BOWMAN BIRK TRYPSIN INHIBITOR.
                                                                                                                                                                                                                                                                                                                                                                   SMART; SM00269;
SEQUENCE 185;
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PROSITE; PS00281; BOWMAN_BIRK;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Molecular cloning, expression pattern birk trypsin inhibitor family."; Submitted (APR-2000) to the EMBL/GenBar EMBL; AJ277470; CAB88391.1; -.
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Qu L., Gu H., Liu M.,
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phytoparasitic nematode ovicidal factor., submitted (MAY-1999) to the EMBL/GenBank/DD EMBL; AF153708; AAD47622.1
                                                                                                             STRAIN-BG33R;
Glandorf D.C.M.,
Kluepfel D.A.;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
HYPOTHETICAL 41.0 KDA PROTEIN.
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Stover'C.K., Pham X.-Q.T., Erwin A.L., Mizoguchi S.D., Warrer Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagarber R.L., Goltry L., Tolentino E., Westbrock-Wadman S., Yu Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lin Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T., Reizer J., Saler M.H., Hancock R.E.W., Lory S., Olson M.V.; "Complete genome sequence of Pseudomonas aeruginosa PAO1, an opportunistic pathogen.";

Nature 406:959-964(2000).
                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                   Pseudomonas sp. BG33R.
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                                                                              "Identification of genetic loci
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Pred. No.
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man S., Yuan Y.,
ig K., Lim R.M.,
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                                         046055;
01-JUN-1998 (TrEMBLrel. 16, Created)
01-NOV-1999 (TrEMBLrel. 12, Last sequence updat
01-MAR-2001 (TrEMBLrel. 16, Last annotation upd
EG:165H7.3 PROTEIN.
L(1)1BB OR EG:165H7.3 OR CG3923.
Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexa
Pterygota; Neoptera; Endopterygota; Diptera; Br
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                  Query Match
Best Local
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O9LL57;
01-OCT-2000 (TrEMBLrel. 1
01-OCT-2000 (TrEMBLrel. 1
01-MAR-2001 (TrEMBLrel. 1
 SEQUENCE F
de Pablos
                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.

YUN C.-H., Lee G.-R., Kim H.-I.;
YUN Clar analysis of receptor-like kinase
"Molecular analysis of receptor-like kinase
Submitted (FEB-2000) to the EMBL/GenBank/DDB
-!- SIMILARITY: TO THE SER/THR FAMILY OF PRO
EMBL; AF238472; AAF78016.1; -.
                                                                                                                                                                 046055
                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR002290; -.

Pfam; PF00069; pkinase; 1.

PROSITE; PS00599; AA_TRANSFER_CLASS_2;

PROSITE; PS00107; PROTEIN_KINASE_ATP; 1

PROSITE; PS50011; PROTEIN_KINASE_DOM; 1

PROSITE; PS00108; PROTEIN_KINASE_ST; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oryza sativa (Rice).
Eukaryota; Viridiplantae;
Magnoliophyta; Liliopsida;
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                                  NCBI_TaxID=7227;
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                                                                                                                                                                                                                                                                                                                                           SMART; SM00220; S_TKC; ATP-binding; Kinase; St
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RECEPTOR-LIKE
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InterPro; IPR001917; -.
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Last sequence update)
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Pred. No.
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                                                                      Hexapoda;
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                                                           Brachycera;
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Copyright (c) 1993 - 2000 Compugen
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sarcophaga
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| 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 |
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| 35 | 35 | 35.5 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 38 | 38 |
| 60.3 | 60.3 | 61.2 | 62.1 | 62.1 | 62.1 | 62.1 | 62.1 | 62.1 | 62.1 | 62.1 | 62.1 | | • | 63.8 | • | | | • | • | • | • | | • | • | |
| 102 | 100 | .1054 | 1159 | 1000 | 954 | 739 | 589 | 478 | 343 | 275 | 246 | 145 | 69 | 2382 | 2126 | 1246 | 833 | 420 | 310 | 154 | 154 | 116 | 68 | 850 | 753 |
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| 059168 | 087245 | Q9FKL3 | Q9EPR5 | Q9U3H5 | Q22360 | Q9DQD3 | Q9RLD9 | Q9WUF2 | Q22807 | Q9VP40 | 083043 | Q9P1S1 | Q9EWV8 | Q9H4A3 | Q9J1H 7 | 015052 | Q9RZT0 | Q9RJQ6 | 9нін8 | Q91F29 | оэхклэ | P72878 | Q9NME9 | Q9JJ15 | Q9SDD2 |
| 059168 pyrococcus | 087245 lactococcus | Q9fkl3 arabidopsis | | Q9u3h5 caenorhabdi | Q22360 caenorhabdi | Q9dqd3 ebola virus | Q9rld9 pseudomonas | Q9wuf2 mus musculu | Q22807 caenorhabdi | | 083043 azospirillu | | | | Q9jih7 rattus norv | | | Q9rjq6 streptomyce | đ | Q9if29 hepatitis b | Q9ykj9 hepatitis b | | Q9nme9 leishmania | Q9jj15 mus musculu | Q9sdd2 oryza sativ |

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077029;
01-NOV-1998
01-NOV-1998
01-MAR-2001
                                                                                                                                                                                                                                                                                                                  Genetics 149:959-970(1998).

Genetics 149:959-970(1998).

Genetics 149:959-970(1998).

FUNCTION: AS-C PROTEINS ARE INVOLVED IN THE DETERMINATION OF THE NEURONAL PRECURSORS IN THE PERIPHERAL NERVOUS SYSTEM ALSO INVOLVED IN SEX DETERMINATION AND DOSAGE COMPENSATION (BY SIMILARITY).

1- SUBUNIT: EFFICIENT DNA BINDING REQUIRES DIMERIZATION WITH ANOTHER BHLH PROTEIN (BY SIMILARITY).

1- SIMILARITY: BELONGS TO THE BASIC HELIX-LOOP-HELIX (BHLH) FAMILY OF TRANSCRIPTION FACTORS.

EMBL; ABO05799; BAA33210.1; -.

E1yBase; FEBO0025397; Dyak\sc.

InterPro; IPR001092; -.

InterPro; IPR003015; -.
Neurogenesis; Differentiation; Developmental protein.
DNA_BIND 90 100 BASIC DOMAIN (BY SIMILARITY).
DOMAIN 101 151 HELIX-LOOP-HELIX MOTIF (BY SI
SIMILAR 322 336 TO AC AND L(1)SC PROTEINS.
SEQUENCE 336 AA; 37050 MW; 0202BB37BCB1A9BC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
a_CHAETE-SCUTE COMPLEX PROTEIN SC (SCUTE PROTEIN).
                                                                                                                                                                                                           SMART; SM00353; HLH;
                                                                                                                                                                                                                                                    PROSITE;
                                                                                                                                                                                                                                                                                          Pfam; PF00010; HLH;
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P18272; Q9YMG4;
01-NOV-1990 (Rel. 16, C
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30-MAY-2000 (Rel. 39, L
NUCLEOPROTEIN (NUCLEOCA
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                                                                                                                                                                                                                                                                                         EMBL; AF054908; AAC09342.1;
                                                                                                                                                                                                                                                                                                                use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vanderzanden L., Bray M., Fuller D., Roberts T., Custer D., Jahrling P., Huggins J., Schmaljohn A., Schmaljohn C.; "DNA vaccines expressing either the GP or NP genes of Ebola protect mice from lethal challenge.";
Virology 246:134-144(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=98321157;
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30-MAY-2000
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SEQUENCE 73
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or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: RESPONSIBLE FOR ENCAPSIDATION OF GENOMIC RNA.

DOMAIN: THIS PROTEIN CAN BE DIVIDED INTO A HYDROPHOBIC N-TERMINAL
HALF, AND A HYDROPHILIC AND HIGHLY ACIDIC C-TERMINAL HALF.
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IPFPGPI 433
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negative-strand viruses; Mononegavirales;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-89243211; PubMed=2718390; Sanchez A., Kiley M.P., Holloway B.P., McCormick J.B., Auperin D. "The nucleoprotein gene of Ebola virus: cloning, sequencing, and vitro expression.";
                                                                                                                                                                                                                      EMBL; J04337; AAA42977.1; ALT_SEQ.
EMBL; L11355; AAB81001.1; -.
EMBL; AF086833; AAD14590.1; -.
PIR; A31471; VHIWEB.
                                                                                                                                                                                                                                                                                                                                                                               This
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Sanchez A., Kiley M.P., Holloway B.P., Auperin D.D.;
"Sequence analysis of the Ebola virus genome: organization,
elements, and comparison with the genome of Marburg virus.";
Virus Res. 29:215-240(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sanchez A.
Submitted
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Viruses; ssRNA negative-strand viruses; Mononegavirales; Filoviridae;
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EGR4_HUMAN Q05215;

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                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; X69438; CAA49214.1;
EMBL; X60104; CAA42698.1;
EIR; S29992; S29992.
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PROSITE; PS00028; ZINC_FINGER_C2H2_1; 3.

PROSITE; PS50157; ZINC_FINGER_C2H2_2; 3.

Nuclear protein; Transcription regulation; DNA-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Proc. Natl. Acad. Sci. U.S.A. 88:10079-10083(1991).
-- SUBCELLULAR LOCATION: NUCLEAR (PROBABLE).
-- INDUCTION: BY PHA/PMA OR BY SERUM.
-- SIMILARITY: BELONGS TO THE EGR FAMILY OF C2H2-T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=92052214; PubMed=1658795;
Mueller H.-J., Skerka C., Bialonski A., Zipfel P.F.;
"Clone pAT133 identifies a gene that encodes another human member of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.

MEDLINE-93278383; PubMed-8504297;

Holst C., Skerka C., Lichter P., Bialonski A., Zipfel P.F.;

"Genomic organization, chromosomal localization and promoter function
                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR000822; -. Pfam; PF00096; zf-C2H2; 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a class of growth factor-induced genes with almost identical zinc-finger domains.";
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Mammalia; Eutheria;
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PROTEIN 4 (EGR-4) (AT13
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C2H2-TYPE.

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S -> T (IN REF. 2).

W; ODF764427E0A21E3 C
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Q9QP77;
30-MAY-2000
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                                                                                                                                     Prehaud C.J.C., Hellebrand E., Coudrier D., Volchkov V.E., Volchkova V.A., Feldmann B., Le Guenno B., Bouloy M.; Volchkova V.A., Feldmann B., Le Guenno B., Bouloy M.; "Recombinant Ebola virus nucleoprotein and glycoprotein (Gabon strain) provide new tools for the detection of human infections J. Gen. Virol. 79:2565-2572(1998).

-i- FUNCTION: RESPONSIBLE FOR ENCAPSIDATION OF GENOMIC RNA.
-i- DOMAIN: THIS PROTEIN CAN BE DIVIDED INTO A HYDROPHOBIC N-TI-DOMAIN: AND A HYDROPHILIC AND HIGHLY ACIDIC C-TERMINAL HALF.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUCLEOPROTEIN (NUCLEOCAPSID PROTEIN).
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30-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ebola virus (strain
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427 IPFPGPI 433
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                                                                                                                                                                                                                                                                                                                                           PubMed=9820131;
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tive-strand viruses;
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Pred. No.
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RESULT 9
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Q12815;
30-MAY-2000
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                 SEQUENCE FROM N.A. MEDLINE=95278733;
                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                             TROPHININ-ASSOCIATED
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01-OCT-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               modified and this statement is not removed. entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              comparison of surface antigen sub
J. Gen. Virol. 69:2575-2583(1988)
                                                                                                                                                                                                               Fukuda M.N., Sato
                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; D00330; -; NOT_ANNOTATED_CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Okamoto H., Tsuda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Viruses; Retroid viruses; Hepadnaviridae; Orthohepadnavirus. NCBI_TaxID=10415;
                                                                                                                                                                                                       Nozawa S.;
                                                                                                                                                                                                                                                         NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-89010694;
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                                                                                                                                                                                                                                                                                                                                                                                                                     29
                                                                                                                                                                                                                                                                                                                                                                                                                                         4 PFPGPL 9
                                                                     SUBCELLULAR LOCATION: CYTOPLASMIC.
TISSUE SPECIFICITY: STRONG EXPRESSION AT IMPLANTATION SITES. WAS EXCLUSIVELY LOCALIZED TO THE APICAL SIDE OF THE SYNCYTIOTROPHOBLAST. ALSO FOUND IN MACROPHAGES.
                                                                                                                 EMBRYO IMPLANTATION.
SUBUNIT: DIRECTLY BINDS BYSTIN,
                                                                                                                                     ADHESION MOLECULE COMPLEX THAT MEDIATES AN THE BLASTOCYST TO UTERINE EPITHELIAL CELLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gen. Virol. 69:2575-2583(1988).
FUNCTION: INDISPENSABLE FOR HBV REPLICATION IN VIVO.
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H., Tsuda F., Sakugawa H.,
Y., Mayumi M.;
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00739; X; 1.
154 AA; 1655
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Metazoa; Chordata; C
Metazoa; Primates; C
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39,
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Т., Nakayama J.
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PROTEIN (TASTIN) (TROPHININ-ASSISTING PROTEIN).
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                                                                                                                                                                                                                Nakayama J.,
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Pred. No.
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                                                                                                                                                                                                                Klier G., Mikami M.,
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                                                                                                                  AND INDIRECTLY TROPHININ
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Best Local
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DOMAIN 30 52
DOMAIN 163 195
DOMAIN 273 276
SEQUENCE 389 AA; 412
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Q03173;
Q1-OCT-1996
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Q1-OCT-1996
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SEQUENCE
                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Exthe European Bioinformatics Institute. There are no restruce by non-profit institutions as long as its content use by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                 Sazuka T., Tomooka Y., Kathju S., Ikawa Y., Noda M., Kumar S "Identification of a developmentally regulated gene in them central nervous system which encodes a novel proline rich pr Biochim. Biophys. Acta 1132:240-248(1992).

1- FUNCTION: MAY PLAY AN IMPORTANT BIOLOGICAL ROLE IN THE DEVELOPMENT MAY DLAY FERENTIATION OF THE CENTRAL NERVOUS SOIL TISSUE SPECIFICITY: IN THE HEART AND TESTIS AND LESS SO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
REPEAT
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                                                                                                                                                                           MGD;
                                                                                                                                                                                                                       or send
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                                                                                                                                                                                          EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=93041923; PubMed=1420303;
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HLMPFPGPLL 10
                                                                                                                                                                           MGI:97291; Ndpp1.
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                                                                                                                                                                                          D10727; BAA01570.1;
                           Similarity 60.06; Conservative
                                                                                                                                                                                                                     an email to license@isb-sib.ch).
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PROLINE RICH PROTEIN 1 (NDPP-1)
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Pred. No.
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Pred. No. 61;
1; Mismatches
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(NDPP-1).
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                                                        Length 389;
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Coat protein; Glycoprotein: p-1.
SIGNAL
SEQUENCE FROM N.A.
STRAIN-CV. YOLO WONDER;
MEDLINE-94197697; PubMed-8147854;
Deruere J., Bouvier F., Steppuhn J., Klein A.
"Structure and expression of two plant genes
                                                                                                                                    01-OCT-2000 (Rel. 40, Created)
01-OCT-2000 (Rel. 40, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
CAPSANTHIN/CAPSORUBIN SYNTHASE, CHLOROPLAST P.
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SEQUENCE
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CARBOHYD
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CARBOHYD
                                                                              Eukaryota; Viridiplantae; Embry
Magnoliophyta; eudicotyledons;
Solanales; Solanaceae; Capsicum
                                                                                                              Capsicum annuum (Bell pepper)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   between the Swiss Institute of Bloinformat
the European Bioinformatics Institute. The
use by non-profit institutions as long
modified and this statement is not removed.
entities requires a license agreement (See
or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; D10032; BAA00924.1;
EMBL; X05470; CAA29028.1;
PIR; JT0262; VCMVM7.
HSSP; P03385; 1MOF.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          retroviruses.";
Jpn. J. Genet. 62:127-137(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kato S., Matsuo K., Nishimura N., Takahashi N., Takano T.; "The entire nucleotide sequence of baboon endogenous virus chimeric genome structure of murine type C and simian type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Baboon endogenous virus (strain M7). Viruses; Retroid viruses; Retroviridae,
                                                                   NCBI_TaxID=4072;
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lons; core eudicots; Asteridae; euasterids
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N-LINKED (GLCNAC...)
9573137DC4620BB7 CRC
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Bioinformatics and the EMBL outstation -
ititute. There are no restrictions on its
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encoding
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STRAIN-CV. LAMOYO;

STRAIN-CV. LAMOYO;

MEDLINE-95004653; PubMed=7920703;

MEDLINE-95004653; PubMed=7920703;

Bouvier F., Huqueney P., d'Harlinque A., Kuntz M., Camara B.;

Bouvier F., Huqueney P., d'Harlinque A., Kuntz M., Camara B.;

"Xanthophyll biosynthesis in chromoplasts: isolation and molecular "Xanthophyll biosynthesis in chromoplasts: isolation and molecular cloning of an enzyme catalyzing the conversion of 5,6-epoxycarotenoid "Atomarotenoid.";
                                                                                           X_HPBVO
P20977;
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CONFLICT
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between
                             01-FEB-1991 (Rel. 17, Created)
01-FEB-1991 (Rel. 17, Last sequence up
01-NOV-1995 (Rel. 32, Last annotation
TRANS-ACTIVATING PROTEIN X.
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MEDLINE-95179811; PubMed-7874747;
HOUIN G., Schantz M.L., Meyer B., Pozueta-Romero J., Schantz Houln G., Schantz M.L., Meyer B., Pozueta-Romero J., Schantz A. Chromoplast-specific protein in Capsicum annuum: charanand expression of the corresponding gene.";
Curr. Genet. 26:524-527(1994).
-I- FUNCTION: CATALYZES THE CONVERSION OF THE UBIQUITOUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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STRAIN-CV. YOLO WONDER;
 Hepatitis B
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TRANSIT 1
CHAIN 7
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Oxidoreductase; NAD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EPOXYCAROTENOIDS, ANTHERAXANTHIN AND VIOLAXANTI
AND CAPSORUBIN, RESPECTIVELY.
PATHWAY: CAROTENOID BIOSYNTHESIS.
SUBUNIT: MONOMER.
SUBCELLULAR LOCATION: CHLOROPLAST; CHROMOPLAST
SIMILARITY: BELONGS TO THE LYCOPENE CYCLASE FAN
                                                                                                                                                                                    LKPFPSPLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  X77289; CAA54495.1; -.
X76165; CAA53759.1; -.
X78030; CAA54961.1; -.
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7586; Capan; 424; 7586.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                proteins: occurrence of partially spliced transcripts."; Biophys. Res. Commun. 199:1144-1150(1994).
                                                                                                                                                                                                                                                                                                                          498
                                                                                                                                                                                                                                                                                                                                                      84
316
378
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virus (subtype adw / strain Okinawa/poDW282).
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AEA -> LRP (IN REF. 3).
PSD -> LRH (IN REF. 3).
ELAVI.SLYLFCHASNLARLDIVTKCTVPLVKLLGNLAIESL
-> RTCCTQFVPFWTCL (IN REF. 3).
4FB25F676A022A98 CRC64;
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A -> R (IN REF.
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Benos P.V., Gatt M.K., Ashburner M., Murphy L., Harris D.,
Benos P.V., Gatt M.K., Ashburner M., Murphy L., Harris D.,
Barrell B.G., Ferraz C., Vidal S., Brun C., Demailles J., Cadieu I.
Dreano S., Gloux S., Lelaure V., Mottier S., Galibert F., Borkova Minana B., Kafatos F.C., Louis C., Siden-Kiamos I., Bolshakov S.,
Papagiannakis G., Spanos L., Cox S., Madueno E., de Pablos B.,
Modolell J., Peter A., Schottler P., Werner M., Mourkioti F.,
Beinert N., Dowe G., Schafer U., Jackle H., Bucheton A.,
Callister D.M., Campbell L.A., Darlamitsou A., Henderson N.S.,
McMillan P.J., Salles C., Tait E.A., Valenti P., Saunder R.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "The scute (T4) gene acts as a numerator element of the X: a signal that determines the state of activity of sex-lethal in Drosophila."; EMBO J. 8:3079-3086(1989).

-I- FUNCTION: AS-C PROTEINS ARE INVOLVED IN THE DETERMINATION OF THE NEURONAL PRECURSORS IN THE PERIPHERAL NERVOUS SYSTEM AND THE CENTRAL NERVOUS SYSTEM. ALSO INVOLVED IN SEX DETERMINATION AND DOSAGE COMPERSATION.

-I- SUBUNIT: EFFICIENT DNA BINDING REQUIRES DIMERIZATION WITH ANOTHER.
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                                                                                                                                                                                                                                           FlyBase; FBgn0004170; sc. InterPro; IPR001092; -. InterPro; IPR003015; -.
                                                                                                                                                                                                                                                                                                                                                                                            the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  melanogaster.";
Science 287:2220-2222(2000).
                                                                                                                                                                                         DNA_BIND
                                                                                                                                                                                                      Neurogenesis;
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39 y
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                      HLMPFPGPLL
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                                                                Similarity
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HELLY-LOOP-HELLY MOTIF (BY SIMILARITY).

R -> S (IN REF. 1).

T -> R (IN REF. 1).

L -> V (IN REF. 1).
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01-MAR-1989 (Rel. 10, Last sequence update)
01-CCT-2000 (Rel. 40, Last annotation update)
ENV POLYPROTEIN PRECURSOR (COAT POLYPROTEIN)
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Mech. Dev. 65:99-109(1997).
-i- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).
-i- SIMILARITY: BELONGS TO THE PAIRED FAMILY OF HOMEOBOX PROTEINS.
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Miura H., Yanazawa M., Kato K., Kitamura K.;
"Expression of a novel aristaless related ho
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                                                                                                                                                                                                                                                                                                                                                                                                Transcription regulation;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR000679;
Pfam; PF00320; GATA;
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Matsuda K., Kobune Y., Noda C., Ichihara &
"Expression of GATA-binding transcription
hepatocytes.";
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TISSUE SPECIFICITY: ERYTHROCYTE.

DOMAIN: THE TWO FINGERS ARE FUNCTIONALLY DISTINCT AND COOPERATE TACHLEVE SPECIFIC, STABLE DNA BINDING. THE FIRST FINGER IS

NECESSARY ONLY FOR FULL SPECIFICITY AND STABILITY OF BINDING,

WHEREAS THE SECOND ONE IS REQUIRED FOR BINDING (BY SIMILARITY).

SIMILARITY: BELONGS TO THE GATA-TYPE TRANSCRIPTION FACTOR FAMILY.
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SUBUNIT: THE AMINO-TERMINAL ZINC SIMILARITY).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lett. 353:269-272(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P17678;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D13518; BAA02735.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PR00619; GATAZNFINGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          non-profit institutions as long as its content is in no way and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSCRIPTION
                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                   Nuclear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1GAU
                                                                                                                                                                          AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-Liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   . 32, Created)
. 32, Last sequ.
. 40, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (Rat).
                                                                                                                                                                                                                           ar protein.
228
282
203
205
205
208
                                                                                                                                                                          222
42871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chordata;
Rodentia;
                                                        86.2%;
90.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last sequence update)
Last annotation update)
ON FACTOR (GATA-1) (ERYF1) (GF-1) (NF-E1).
                                                                                                                                                                          MW.
                                                                                                                                                                                                                                                                                                                                                                                          Activator;
                                                                                                                                                                     GATA-TYPE.

FOG-1 (BY SIMILARITY).

FOG-1 (BY SIMILARITY).

FOG-1 (BY SIMILARITY).

FOG-1 (BY SIMILARITY).

W; 9BE4120FCF8269BB CRC64;
                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                           Score 50; I
Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                          GATA-TYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Sciurognathi; Muridae;
                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                         NN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FINGER INTERACTS WITH FOG-1 (BY
                                                                                                                                                                                                                                                                                                                                                                                          DNA-binding; Erythrocyte;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               413
                                                                                           DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A.;
n factors
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                                                                                        ۳.
                                     1;
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                                                                                     Length 413;
                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Í'n
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Euteleostomi;
; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IN ERYTHROID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ES AS A
DS TO DNA
REGULATORY
                                  0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
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                                  Gaps
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  RESULT 4

AST4_DROME

AST4_DROME

ID AST4, DROME

AC 01084; 0766

AC 01087; 0766

AC 02080; 07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
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                                                                                                                                                                                                                                      RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Dett S.M.,
Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Durbin K.J., Evangelista C.C., Ferraz C., Ferriera S., Fleischmann W.,
RA Durbin K.J., Evangelista C.C., Ferraz C., Ferriera S., Fleischmann W.,
RA Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Glodek A., Gong F., Keimann T.J., Hernandez J.R., Houck J.,
RA Harris N.L., Harvey D., Heiman T.J., Wei M.-H., Ibegwam C.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kilux J., Mattei B., McIntosh T.C., McLeod M.P., McPherson D.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Melson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Nelson D.R., Nelson K.A., Nixon K., Sunskern D.R., Pacleb J.M.,
RA Ra Rehert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Shue B. G., Siden-Kiangs T., Simpson M., Skupski M.P., Smith T.
Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith Spier E., Spradling A.C., Stapleton M., Strong R., Sun E., Svirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J., Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Sibbs R.A., Myers E.W., Rubin G.M., Venter J.C.; "The genome sequence of Drosophila melanogaster.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G.
Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshkov S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        UI-UCT-2000 (Rel. 40, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
ACHAPTE-SCUTE COMPLEX PROTEIN T4 (SCUTE PROTEIN).
SC OR T4 OR EG:198A6.1 OR CG3827.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAR-1989 (Rel. 10,
01-OCT-2000 (Rel. 40,
01-OCT-2000 (Rel. 40,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Adams M.D., Celniker S.E., Holt R.A., Ev
Amanatides P.G., Scherer S.E., Li P.W.,
George R.A., Lewis S.E., Richards S., As
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=20196006; PubMed=10731132;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Villares R., Cabrera C.V.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P10084; 076890; 01-MAR-1989 (Re
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-87273503;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ephydroidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           378
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           achaete-scute gene complex
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HLMSFPGPLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              50:415-424(1987).
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t
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PubMed=3111716;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ç
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    neurogenesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 melanogaster: conserved domains rogenesis and their homology to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ashburner M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Evans C.A., Gocayne J.D.,
, Hoskins R.A., Galle R.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Henderson S.N.,
                                                                                                                 Yao Q.A.,
                                                                                                                                                                  Wang X.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  iklos G.L.G.,
Baldwin D.,
                                                        H.O.,
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RESULT 2
GAT1_MOUSE
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                                                                                                                                                                                                                                                                                                                                          Query
Best I
                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; M30601; AAA35885.1; -. EMBL; X17254; CAA35120.1; -. EMBL; X171547; CAA35120.1; -. EMBL; AF196971; AAF06806.1; -. PIR; A34888; A34888. PIR; S07121; S07111. HSSP; P17678; IGAU.
                                                                                                                                                                                                                                                                                                                                                                                                          ZN_FING
BINDING
BINDING
BINDING
BINDING
VARIANT
                                                                                                                       01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
01-CCT-2000 (Rel. 40, Last annotation update)
ERYTHROID TRANSCRIPTION FACTOR (GATA-1) (ERYF
                                                                                                                                                                   GAT1_MOUSE P17679;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PRO0619; GATAZNFINGER.1;
PROSITE; PS00344; GATA_ZN_FINGER_1;
PROSITE; PS50114; GATA_ZN_FINGER_2;
         MEDLINE-89262083;
Tsai S.-F., Martin
                                                                           Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                             GATA1
                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
 Orkin
                                 TI6SUE=Erythrocyte;
                                          SEQUENCE FROM N.
                                                               NCBI_TaxID=10090
                                                                                                   Mus musculus
                                                                                                                                                                                                                                                                                                                                                                MUTAGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZN_FING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zinc-finger;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Transcription
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR000679;
Pfam; PF00320; GATA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRANSFAC; T00227; -. TRANSFAC; T00306; -.
                                                                                                                                                                                                                                       378
                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                             Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABUNDANT AND ABNORMALLY SMALL MEGARAKYOUTTES.
SIMILARITY: BELONGS TO THE GATA-TYPE TRANSCRIPTION FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DYSERYTHROPOIETIC ANEMIA AND THROMBOCYTOPENIA (XDAT), A DISORDER CHARACTERIZED BY ERYTHROCYTES WITH ABNORWAL SIZE AND SHAPE, AND PAUCITY OF PLATELETS IN PERIPHERAL BLOOD. THE BONE MARROW CONTAIL ABUNDANT AND ABNORWALLY SMALL MEGAKARYOCYTES.
                                                                                                                                                                                                                                                         HLMPFPGPLL
                                                                                                                                                                                                                                     HLMPFPGPLL 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     305371;
                                                                                                             OR GF-1.
                                                                                                                                                                                                                                                                                  10;
                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                        413
          Martin
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204 228
258 283
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205 205
                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                               204
                                                                                                (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               344; GATA_ZN_FINGER_1; 2.
114; GATA_ZN_FINGER_2; 2.
regulation; Activator; DNA-binding; Erythrocyte;
                                                                                                                                                                                                                                                                                                                                        AA;
                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                           10
        PubMed=2725678;
n D.I.K., Zon L.
                                                                           Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                               204
                                          AND
                                                                                                                                                                                                                                                                                                                                          42751
                                                                                                                                                                                                                                                                                            100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein;
                                          PARTIAL
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V -> M (IN XDAT; SEVERE IMPAIRMENT FOG-1 BINDING AND ERYTHROID DIFFERENTIATION IN VITRO).

/FTId=VAR_010115.
                                                                                                                                                                                                                                                                                                                                                                                                                                FOG-1.
FOG-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GATA-TYPE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disease mutation GATA-TYPE.
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Pred.
                                                                          Craniata; Ver
Sciurognathi;
                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                        822BD2DE14B908AD
                                          SEQUENCE
                                                                                                                                                                                                                                                                                 Mismatches
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                                                                                                                                                                                                                                                                                             58;
        D'Andrea A.D.,
                                                                                                                                                                              413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            There are no restrictions ng as its content is in
                                                                                       Vertebrata;
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                                                                                                                                                                                                                                                                                                     Length 413;
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        Wong
                                                                                      Euteleostomi;
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        G.W.,
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                                                                                                                                                                                                                                                                                                                                          MGD; MGI:95661; Gata1.
InterPro; IPR000679; -.
Pfam; PF00320; GATA; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; X15763; CAA33769.1; -. EMBL; X57530; CAA40751.1; -. PIR; S04655; S04655. PDB; IGNF; 08-JUN-99.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See
                                                                                                                                                                                                                                                                           PROSITE; PS00344; GATA_ZN_FINGER_1; PROSITE; PS50114; GATA_ZN_FINGER_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=99229455; pubMed=10212985;
Kowalski K., Czolij R., King G.F., Crossley M., Mackay J.P.;
Kowalski K., Czolij R., King G.F., Crossley M., Mackay J.P.;
The solution structure of the N-terminal zinc finger of GATA-1
reveals a specific binding face for the transcriptional co-factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Transcriptional activation GF-1/NF-E1/Eryf 1.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Cloning of cDNA for the major DNA-binding protein of the erythroid lineage through expression in mammalian cells."; Nature 339:446-451(1989).
                                                                                                                                                                                                                                   Zinc-finger;
                                                                                                                                                                                                                                                            Transcription
                                                                                                                                                                                                                                                                                                                        PRINTS; PR00619; GATAZNFINGER
                                                                                                                                                                                                                                                                                                                                                                                                               TRANSFAC; T00305; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FOG
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  SEQUENCE
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        ween the Swiss Institute of Bioinformatics
European Bioinformatics Institute. There a
by non-profit institutions as long as i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUBUNIT: THE AMINO-TERMINAL ZINC FINGER INTERACTS WITH FOG-1. SUBCELLULAR LOCATION: NUCLEAR: TISSUE SPECIFICITY: ENTHEROCYTE.

TISSUE SPECIFICITY: ENTHEROCYTE.
DOMAIN: THE TWO FINGERS ARE FUNCTIONALLY DISTINCT AND COOPERATE ACHIEVE SPECIFIC, STABLE DNA BINDING. THE FIRST FINGER IS NECESSARY ONLY FOR FULL SPECIFICITY AND STABILITY OF BINDING, WHEREAS THE SECOND ONE IS REQUIRED FOR BINDING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY: BELONGS TO THE GATA-TYPE TRANSCRIPTION FACTOR FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NMR 13:249-262(1999).

NITANSCRIPTIONAL ACTIVATOR WHICH PROBABLY SERVES

SWITCH FACTOR FOR ERVIHROID DEVELOPMENT. IT BINDS

JAMES OF THE CONSENSUS SEQUENCE (A/T)GATA(A/G) WITHIN RE
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42674
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o the EMBL/
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H.,
  MW.
                                                                                                                                                                                                                                                            Activator; DNA-binding; Erythrocyte;
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                                     GATA-TYPE.
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C->P: STAB
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EMBL/GenBank/DDBJ
                      L->F:
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  BB627A92700D557A
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S DNA-BINDING.
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Query Match Best Local

Similarity

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. 0 %;

Score Pred.

58; No.

DB 1; 0.0099;

Length 413

GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.

OM protein - protein search, using sw model

Run on: October 23, 2001, 13:28:18; Search time 17.76 Seconds (without alignments)
19.288 Million cell updates/sec

Title: Perfect score: US-09-625-963-3 58 1 HLMPFPGPLL 10

Scoring table: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5

Searched:

Total number of hits satisfying chosen parameters:

93435

93435 seqs, 34255486 residues

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

SwissProt_39:*

Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| 32 32 33 33 | 15 16 16 17 17 19 20 21 22 22 23 24 | 1 2 3 3 4 4 4 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Result |
|--|---|---|------------------|
| | | 55 55 55 55 55 55 55 55 55 55 55 55 55 | Score |
| | | 100.0 100.0 86.2 69.2 67.2 65.5 63.8 63.8 62.1 62.1 62.1 | Query Match 1 |
| 183 188 246 270 290 311 | 739 83 224 224 462 504 518 575 575 | 413 413 4413 563 563 563 154 498 1754 1754 1738 1738 | Length DB |
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| AR21_CASE AR21_CASE Y419_ARCFU TSUR_STRLU COBD_ARCFU Y4FM_RHISN | VNUC_EBOZN VNUC_EBOZN UR2_PLAFE CASB_BOYN CASB_BOUBU ERR1_MOUSE A37C_DROME CP3R_ONCMY ERR1_HUMAN VL1_HPV18 ENVL_SMRVH NCPR_PHAAU ERR1_ARATH CRB1_TARATH | GAT1_HUMAN GAT1_ROUSE GAT1_ROUSE GAT1_RAT AST4_DROME ARX_MOUSE ENV_BAEVM CCS_CAPAN X_HPBVO TAST_HUMAN NDPP_MOUSE EGR4_HUMAN VNUC_EBOSB VNUC_EBOSB VNUC_EBOSS | ID |
| 51 | 2 ebola 7 platic 6 bos ta 0 bubalu 0 mus mu 7 drosop 3 oncorh 4 homo s 4 human 2 squirr 2 squirr 6 prabied | p15976 homo sapien p17679 mus musculu p43429 rattus norv p10084 drosophila 035085 mus musculu p10269 baboon endo 042435 capsicum an p20977 hepatitis b 012815 homo sapien 003173 mus musculu 005215 homo sapien 099p77 ebola virus 099p77 ebola virus 099p77 ebola virus 099p77 ebola virus | Description |

| P04459 gallus gal | KRSC_CHICK | ۳ | 154 | 56.9 | 33 | 5 |
|--------------------|------------|---|------|------|------|----|
| P25692 gallus ga | KRCL_CHICK | ш | 127 | 56.9 | 33 | 4 |
| Q92673 h sortili | SORL_HUMAN | ٢ | 2214 | 58.6 | 34 | Ü |
| P19668 bacillus | BGAL_BACST | ۳ | 672 | 58.6 | 34 | Ŋ |
| 065402 arabidops | ER12_ARATH | ш | 517 | 58.6 | 34 | ï |
| 065727 brassica | ER11_BRANA | ۳ | 506 | 58.6 | 34 | Ö |
| Q9zijl pseudomonas | GNUT_PSEAE | ب | 450 | 58.6 | 34 | 39 |
| P35713 homo sapi | SX18_HUMAN | ۲ | 384 | 58.6 | . 34 | ã |
| Q9z2v9 mus muscu | CYCI_MOUSE | ш | 377 | 58.6 | 34 | 7 |
| Q14094 homo sapi | CYCI_HUMAN | ۳ | 377 | 58.6 | 34 | 5 |
| Q64731 mus muscul | FXL1_MOUSE | ш | 337 | 58.6 | 34 | ű |
| | YM02_MYCTU | ب | 324 | 58.6 | 34 | 4 |

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RESULT 15

JSO603

gene X protein - hepatitis B virus (subtype adw, strain Okinawa/poDW282)
C;Species: hepatitis B virus, HBV
C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 14-Nov-1997
C;Accession: JSO603
R;Okamoto, H; Tsuda, F; Sakugawa, H; Sastrosoewignjo, R.I.; Imai, M; Miyakawa, Y.; M
J. Gen. Virol. 69, 2575-2583, 1988
A;Title: Typing hepatitis B virus by homology in nucleotide sequence: comparison of surf A;Reference number: JSO253; MUID:89010694
A;Reference number: JSO253; MUID:89010694
A;Rolecule type: DNA
A;Molecule type: DNA
A;Rolecule type: DNA
A;Gross-references: GB:D00330; NID:9221498
C;Genetics:
A;Gene: X
C;Superfamily: hepatitis B virus gene X protein
Search completed: October 23, 2001, 13:22:07 Job time: 120 sec
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                                                                                                                                                                                                                                                                Query Match 63.8%; Score 37; DB 2; Length 154; Best Local Similarity 100.0%; Pred. No. 23; Matches 6; Conservative 0; Mismatches 0; Indels
                                                                                                                                              4 PFPGPL 9
||||||
| 29 PFPGPL 34
                                                                                                                                                                                                                                                                0; Gaps
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Capsanthin/capsorubin synthase (EC 5.5.1.-) - pepper
C.Species: Capsicum annuum (pepper)
C.Species: Capsicum annuum (pepper)
C.Cate: 19-Mar-1997 #sequence_revision 25-Apr-1997 #text_change 28-Jul-2000
C.Accession: $51511
R.Houlne, G.; Schantz, M.L.; Meyer, B.; Pozueta-Romero, J.; Schantz, R.
Curr. Genet. 26, 524-527, 1994
A.;Title: A chromoplast-specific protein in Capsicum annuum: characterization and A.;Reference number: $51511; MUID:95179811
A.;Accession: $51511; MUID:95179811
A.;Accession: $51511; MUID:95179811
A.;Accession: $51511; MUID:95179811
A.;Cension: $1-471 <HOU>
A.;Residues: 1-471 <HOU>
A.;Cross-references: GB:X78030; NID:g840728; PIDN:CAA54961.1; PID:g840729
C.;Superfamily: tomato lycopene beta-cyclase
C.;Keywords: intramolecular lyase; isomerase
RESULT 13
S71511
capsanthin/capsorubin synthase (EC 5.5.1.-) - pepper N; Alternate names: chromoplast-specific protein N; Contain&... capsorubin synthase; capssanthin synthase C; Species: Capsicum annuum (pepper) C; Date: 09-Dec-1997 #sequence_revision 09-Dec-1997 #tc C; Accession: $21511; JC2141
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C;Superfamily:
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A; Residues: 1-399 <STO>
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Nature 406, 959-964, 2000
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Date: 15-Sep-2000 #sequence_rev
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50; MUID:20437337
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A.; Larbig,
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A; Title:
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C; Function:
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hypothetical protein sl10922
C; Species: Synechocystis sp.
A; Variety: PCC 6803
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A;Contents: annotation; er:
A;Note: the legends of the
C;Genetics:
A;Gene: CCS
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A; Accession: S74743
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C;Accession: S74743
R;Kaneko, T.; Sato,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Description: catalyses the conversion of t A;Pathway: carotenoid biosynthesis C;Superfamily: tomato lycopene beta-cyclase C;Keywords: chromoplast; intramolecular lyas
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Accession: JC2141
A;Molecule type: DNA
A;Residues: 1-498 <DER>
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A;Title: Structure and expression of two plant genes encoding chromoplast-specific A;Reference number: JC2140; MUID:94197697
                                                                                                                                        A;Cross-references: EMBL:D90901; A;Note: the nucleotide sequence v
                                                                                                                                                                           A; Residues: 1-116 <KAN>
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A;Reference number: S
A;Accession: S71511
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: EMBL:X76165; NID:g522119; PIDN:CAA53759.1; PID:g522120
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                                                                                                                                                                                                                                                                                                 K.; Okumura, S.; Shimpo, S.; Takeuchi, A Res. 3, 109-136, 1996
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 Similarity 6; Conser
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                                                                                   Synechocystis hypothetical protein sll0922
 Conservative
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Shimpo, S.; Takeuchi, C.; Wada,
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was submitted
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17;
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Yamada, M.; Ya
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R;Klenk, H.P.; Clayton, R.A.; Tomb, J.F.; White, O.; Nelson, K.E.; Ketchum, K.A.; Dodson; Fleischmann, R.D.; Quackenbush, J.; Lee, N.H.; Sutton, G.G.; Gill, S.; Kirkness, E.F. Glodek, A.; Zhou, L.; Overbeek, R.; Gocayne, J.D.; Weidman, J.F.; McDonald, L. Nature 390, 364-370, 1997
A;Authors: Utterback, T.; Cotton, M.D.; Spriggs, T.; Artiach, P.; Kaine, B.P.; Sykes, S. smith, H.O.; Woese, C.R.; Venter, J.C.
A;Title: The complete genome sequence of the hyperthermophilic, sulfate-reducing archaed A;Reference number: A69250; MUID:98049343
A;Accession: E69281
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C; Date:
C; Access
               Jung, K.H.; Alam, M.; Freitas, T.

Proc. Natl. Acad. Sci. U.S.A. 97, 12176-12181, 2000

A; Authors: Hou, S.; Daniels, C.J.; Dennis, P.P.; Omer, A
A; Title: Genome sequence of Halobacterium species NRC-1.
                                                                                                                                                                 GMP synthase subunit B [imported] - Halobacterium sp. NRC-1
C;Species: Halobacterium sp. NRC-1
C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001
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A84334
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Jpn. J. Genet.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Molecule type: DNA
A;Residues: 1-303 <KLE>
A;Cross-references: GB:AE001088; GB:AE000782;
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A;Accession: JT0262
  A; Reference
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A; Residues: 1-563 <KAT>
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                                                                                                 Ng, W.V.; Kennedy, S.P.; Mahairas, G.G.; Berquist, B.; Pan, Leithauser, B.; Keller, K.; Cruz, R.; Danson, M.J.; Hough, I
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30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 16-Jul-1999
                                                                                                                                                                                                                                                                                                                                                                    3 MPFPGP 8
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                                                                                                                                                                                                                                                                                                                          MPFPGP 189
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number:
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6; Conser
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  A84160; MUID: 20504483
                                                                                                                                                                                                                                                                                                                                                                                                                                65.5%;
100.0%;
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70.0%;
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Pred. No.
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sequence not shown;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 41;
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32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NID: g2689411; PIDN: AAB90977.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1;
                                          Omer, A.D.;
                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 303;
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                                                                                                        D.W.;
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                                          Ebhardt,
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                                                                                                     Shukla, H.D.; ; Maddocks, D.
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).G.; Jab
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                                          T.M.;
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                                       Query Match
Best Local :
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A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-305 <STO>
A;Cross-references: GB:Al
C;Genetics:
A;Gene: guaAb
                                                                                                                                            M.; Ohfuku, Y.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Yamazaki DNA Res. 5, 55-76, 1998
A;Title: Complete sequence and gene organization of the genome A;Reference number: A71000; MUID:98344137
A;Accession: E71006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;anonymous, Genoscope
submitted to the EMBL Data Library, July 1999
submitted to the EMBL Data Library, July 1999
A:Description: Pyrococcus abyssi genome sequence: insights
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gmp synthase, cter domain PAB2417 - Pyrococcus abyssi (strain Orsay)
C;Species: Pyrococcus abyssi
C;Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 20-Aug-1999
C;Accession: C75125
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C75125
                                                   A;Cross-references: GB:AP000006; NID:g3236133; PIDN:BAA30453.1; PID:d1031396; PID:g32A;Experimental source: strain OT3
                                                                                                                                                                                                                       R; Kawarabayasi, Y.; Sawada, M.; M.; Ohfuku, Y.; Funahashi, T.;
                                                                                                                                                                                                                                                         probable GMP synthase - Pyrococcus horikoshii
C;Species: Pyrococcus horikoshii
C;Species: Pyrococcus horikoshii
C;Bate: 14-Aug-1998 #sequence_revision 14-Aug-1998 #text_change 05-Nov-1999
C;Accession: E71006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C;Genetics:
A;Gene: gua
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A; Residues: 1-308 < KAW>
A; Cross-references: GB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Reference number: A75001
A; Accession: C75125
                 C; Genetics
                                  A; Note: this accession
                                                                                        A; Residues: 1-308 < KAW>
                                                                                                         A; Molecule type: DNA
                                                                                                                     A;Status: preliminary; nucleic acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Experimental source:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Status: preliminary
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Best Local S
Matches 6
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Similarity 100.0%; Pred. No.
6; Conservative 0; Mismatc
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                                  replaces
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100.0%
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                                    an interim accession
                                                                                                                                                                                                                     Horikawa, H.; Haikawa, Y.; Hino, Y.; Yamamoto, Tanaka, T.; Kudoh, Y.; Yamazaki, J.; Kushida,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score; Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
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32;
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32;
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                                  for a sequence
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Similarity 6; Conserv

Conservative

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Mismatches

0

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65.5%; Score 38; 100.0%; Pred. No.

DB 32;

2

Length 308

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A;Cross-references: EMBL:D13518
C;Superfamily: transcription factor GATA-1; GATA-type zinc finger homology
C;Keywords: DNA binding; nucleus; transcription factor; transcription regu.
F;201-254/Domain: GATA-type zinc finger homology <GZFI>
F;255-308/Domain: GATA-type zinc finger homology <GZFZ>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                submitted to the EMBL Data Library, October 1992 A; Reference number: $35891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R;Matsuda, K.; Kobune, Y.; Noda, C.; Ichihara, A. FEBS Lett. 353, 269-272, 1994
A;Title: Expression of GATA-binding transcription A;Reference number: S48756; MUID:95046273
A;Accession: S48756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               transcription factor GATA-1 - rat
N,Alternate names: finger protein GF-1; transcription factor Eryfl
C;Species: Rattus norvegicus (Norway rat)
C;Date: 27-Oct-1995 #sequence_revision 03-Nov-1995 #text_change 20
C;Accession: S48756; S35891
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S48756
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: GB:X15763; NID:g51063; PIDN:CAA33769.1; PID:g51064
R;Todokoro, K.; Chiba, T.; Kuramochi, S.; Ikawa, Y.
submitted to the EMBL Data Library, February 1991
A;Description: Nucleotide sequences of the 5'-flanking region of the m A;Reference number: S55394
A;Accession: S55394
A;Accession: S55394
A;Molecule type: DNA
A;Residues: 1-73 <TOD>
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A;Title: Cloning of cDNA for the major DNA-binding protein of A;Reference number: S04655; MUID:89262083
A;Accession: S04655
A;Status: not compared with conceptual translation
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                                                                            Qy
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A; Residues: 1-279, 'KC', 282-413 <NOD>
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A; Residues: 1-413 <MAT>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     R; Noda,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: mRNA
A; Residues: 1-413 <TSA>
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Best Local Similarity
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                                  378
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                                                                                                                                    Local Similarity
les 9; Conserv
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                                                                                                                                    Conservative
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                                                                                                                                                       86.2%;
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Pred. No.
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env polyprotein - baboon endogenous virus (strain N;Alternate names: coat polyprotein N;Contains: coat protein p970; coat protein p20E C;Species: baboon endogenous virus
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achaete-scute complex protein T4 - fruit fly (Drosophila melanogaster) C;Species: Drosophila melanogaster C;Decies: Drosophila melanogaster C;Date: 03-Mar-1993 #sequence_revision 12-Mar-1993 #text_change 17-Mar-1999 C;Accession: B43731; S35425 R;Villares, R.; Cabrera, C.V.
                                                                                                                                                                                                              A;Gene: FlyBase:sc
A;Cross-references: FlyBase:FBgn0004170
                                                                                                                                                                                                                                                           A; Molecule type: DNA
A; Residues: 1-255, 'C', 257-345 <VIL2>
A; Cross references: EMBL:M17119; NID
                                                                                                                                                                                                                                                                                                                  A; Reference number: A; Accession: S35425
                                                                                                                                                                                                                                                                                                                                 submitted to the EMBL Data Library, November 1990 A; Reference number: S35425
                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
A; Residues: 1-345 <VIL1>
                                                                                                                                                                                                                                                                                                                                                                                                                                     Cell 50, 415-424, 1987
A;Title: The achaete-scute gene complex of Drosophila melanogaster: conserved domains A;Reference number: A43731; MUID:87273503
A;Accession: B43731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VCMVM7
             RESULT
                                                                                                                                                                                                                                                                                                                                                                    R; Villares, R.
                                                                                                                                                                                                                                                                                                                                                                                  A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, R;Reference number: A82950; MUID:20437337 A;Accession: F83608 A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .; Lory, S.; Olson, I
Nature 406, 959-964,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Gene:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: DNA
A; Residues: 1-368 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Experimental source: strain PAO1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: GB:AE004467; GB:AE004091; NID:g9946133; PIDN:AAG03681.1; GSPDB:GN
                                                                                                                                                                                                                                                   Genetics:
                                                                                                                                                 Query Match
Best Local
                                                                                                                               Matches
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         267 HKMPIPGPL 275
                                                              39
                                                                                                                               Local Similarity
nes 6; Conserv
                                                                                            1 HLMPFPGPLL 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 HLMPFPGPL
                                                              HIMPAPSPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity 7; Conserv
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                                                              48
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77.8%;
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                                                                                                                                                                                                                                                                 NID:g156745; PID:g156748
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                                                                                                                                               Score 40;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
Pred.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           42;
No.
                                                                                                                                               DB 2;
17;
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                                                                                                                                                               Length 345;
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                                                                                                                             Gaps
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OM protein - protein search, using sw model
October 23, 2001, 13:22:06; Search time 27.18 Seconds (without alignments) 28.026 Million cell updates/sec
                                                                                                                                                                                                 GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
```

Title: Perfect score: Sequence: US-09-625-963-3 58 1 HLMPFPGPLL 10

Scoring table: BLOSUM62 Gapop 10.0 , Gapext 0.5

Searched: 219241 seqs, 76174552 residues

Total number of hits satisfying chosen parameters: 219241

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR_68:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | ഗ | 4 | ω | 2 | — | Result No. |
|--------|--------|--------------------|--------|--------|--------|--------------------|--------------------|--------|--------|--------|--------------------|--------------------|----------------|--------|--------------------|--------------------|--------------------|--------|----------|--------|--------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------------|
| 35 | 35 | 35 | 35 | 35 | 36 | 36 | 36 | 36 | 36, | 36 | 36 | 37 | 37 | 37 | 37 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 39 | 40 | 42 | 50 | 58 | 58 | Score |
| 60.3 | • | • | • | 60.3 | • | 62.1 | 62.1 | 62.1 | 62.1 | 62.1 | 62.1 | | • | | | • | | • | 65.5 | ٠ | | • | | 69.0 | • | 86.2 | 100.0 | 100.0 | Query Match |
| 102 | 100 | 83 | 29 | თ | 1000 | 954 | 739 | 486 | 389 | 362 | 343 | 833 | 778 | 154 | 116 | 498 | 471 | 399 | 308 | 308 | 305 | 303 | 563 | 345 | 368 | 413 | 413 | 413 | Length |
| N | N | N | N | Ŋ | N | 2 | ب | 2 | N | Ν | 2 | 2 | N | N | N | ы | N | N | N | N | 2 | N | _ | N | N | N | N | 1 | DB |
| G71025 | T43116 | S10706 | S77569 | A61049 | T21522 | T24748 | VHIWEB | A41537 | S27200 | T40377 | T28908 | G75621 | I38487 | JS0603 | S74743 | S71511 | S51511 | F83094 | E71006 | C75125 | A84334 | E69281 | VCMVM7 | B43731 | F83608 | S48756 | S04655 | A34888 | ID |
| | | urotensin II precu | S | | | hypothetical prote | nucleocapsid prote | | | | hypothetical prote | arylesterase/monox | tastin - human | | hypothetical prote | capsanthin/capsoru | capsanthin/capsoru | _ | σ | • | | GMP synthase (guaA | env polyprotein - | achaete-scute comp | conserved hypothet | transcription fact | transcription fact | transcription fact | Description |

RESULT 2
, SQ4655
transcription factor GATA-1 - mouse
transcription factor GATA-1 - mouse
N,Alternate names: finger protein GF-1; protein EF-1; protein EF-gamma-a; protein Ery
C; Species: Mus musculus (house mouse)

| 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | ω | 32 | 31 | 30 |
|--------------------|--------------------|--------------------|------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 3 5 | <u>3</u> 5 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| 60.3 | 60.3 | 60.3 | 60.3 | 60.3 | 60.3 | 60.3 | 60.3 | 60.3 | 60.3 | 60.3 | 60.3 | 60.3 | 60.3 | 60.3 | 60.3 |
| 774 | 720 | 706 | 692 | 690 | 686 | 575 | 568 | 521 | 347 | 338 | 334 | 294 | 224 | 209 | 203 |
| 2 | N | N | N | N | N | Н | ᆫ | N | N | N | N | N | Н | N | 2 |
| B84031 | T02457 | H82764 | S37159 | A47298 | B75061 | VCLJHD | P1WL18 | A29345 | H75253 | T35540 | T36284 | H84023 | KBBOA2 | A59068 | E75343 |
| ATP-dependent prot | hypothetical prote | O-antigen acetylas | NADPHferrihemopr | NADPHferrihemopr | alpha chain of for | env polyprotein pr | Ll protein - human | steroid hormone re | hypothetical prote | probable kinase - | probable araC-fami | phosphate ABC tran | beta-casein precur | beta-casein varian | hypothetical prote |

ALIGNMENTS

| HLMPEPGPLL 10 HLMPEPGPLL 387 | Query Match 100.0%; Score 58; DB 1; Best Local Similarity 100.0%; Pred. No. 0.017; Matches 10; Conservative 0; Mismatches 0; | A;Cross-references: GDB:125373; OMIM:305371 A;Map position: Xpl1.23-xpl1.23 C;Superfamily: transcription factor GATA-1; GATA-type zinc finger homology C;Keywords: DNA binding; nucleus; transcription factor; transcription regulation; zin F;201-254/Domain: GATA-type zinc finger homology <gzf1> F;201-254/Pagion: zinc finger GATA motif F;255-308/Domain: GATA-type zinc finger homology <gzf2> F;255-308/Domain: GATA-type zinc finger homology <gzf2> F;258-282/Region: zinc finger GATA motif</gzf2></gzf2></gzf1> | A;Accession: S07121 A;Molecule type: mRNA A;Rolicule type: mRNA A;Residues: 1-413 <tra> A;Residues: 1-413 <tra> A;Residues: 1-413 <tra> A;Cross-references: EMBL:X17254, NID:g31242; PIDN:CAA35120.1; PID:g31243 A;Cross-references: EMBL:X17254, NID:g31242; PIDN:CAA35120.1; PID:g31242; PIDN:CAA35120.1; PID:g31242; PIDN:CAA35120.1; PID:g31242; PID:g31242; PIDN:CAA35120.</tra></tra></tra> | A; Molecule type: mRNA A; Molecule type: mRNA A; Residues: 1-413 <20N> A; Cross-references: GB:M30601; NID:g183071; PIDN:AAA35885.1; PID:g183072 A; Cross-references: GB:M30601; NID:g183071; PIDN:AAA35885.1; PID:g183072 R; Trainor, C.D.; Evans, T.; Felsenfeld, G.; Boguski, M.S. Nature 343, 92-96, 1990 A; Title: Structure and evolution of a human erythroid transcription factor. A; Reference number: S07121; MUID:90114418 | RESULT 1 A34888 transcription factor GATA-1 - human kranscription factor GATA-1 - human kranscription factor Eryf1; transcription kranscription kranscriptio |
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ZIP: 46285

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette, 3.50 inch, 1.0 Mb storage
COMPUTER: MacIntosh
OPERATING SYSTEM: MacIntosh
SOFTWARE: MICTOSOFT WORD
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/427,640
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION NUMBER: 07/689,410
FILING DATE: 22 APRLL 1991
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 355 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-427-640-2
Search completed: October 23, 2001, 13:21:32 Job time: 85 sec
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US-08-427-640-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2, Application US/08427640
Patent NO. 5658788
GENERAL INFORMATION:
APPLICANT: Berg et al.
TITLE OF INVENTION: Compounds and Methods for Treatment of Thromboembolic Disor NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
ADDRESSEE: Eli Lilly and Company
STREET: Lilly Corporate Center
CITY: Indianapolis
STATE: IN.
                                                                                                                                            Query Match 58.5
Best Local Similarity 55.6
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                1 CMTWNQMNL 9
|: || |
29 CLPWNSMIL 37
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|: || | |
29 CLPWNSMIL 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: U.S.A.
ZIP: 46285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5; Conservative
                                                                                                                                                                 58.9%;
                                                                                                                                                 Score 33; DB 1; Length 355
Pred. No. 1.9e+02;
1; Mismatches 3; Indels
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                                                                                                                                                                                 Length 355;
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RESULT 13
US-08-137-116-1
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Best Local Similarity
----ches 5; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; MOLECULE TYPE: protein US-08-811-949-61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No. 550041
                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Koenig, Reinhard
TITLE OF INVENTION: METHOD FO.
TITLE OF INVENTION: CONDITION:
TITLE OF INVENTION: VIA THE U.
TITLE OF INVENTION: ACTIVE PROPERTY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: 703-413-300
TELEFAX: 703-413-2220
INFORMATION FOR SEQ ID NO:
APPLICATION NUMBER: US/08/137,116
FILING DATE: June 30, 1994
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/EP92/00851
FILING DATE: 15 April 1992
                                                                                                       SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 354 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION: TELEPHONE: 703-413-3000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/08/811,949
FILING DATE: 05-MAR-1997
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 18-966-0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                  STREET:
                                                                                                                               COMPUTER: IBM PS/
OPERATING SYSTEM:
                                                                                                                                                                                                                                              CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29 CLPWNSMIL 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY:
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ZIP: 22202
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STATE: VA
                                                                                                                                                                                                                                                                                                     ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, ADDRESSEE: P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CMTWNQMNL 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/08137116
                                                                                                                                                                                                                                                                                 805 Third Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   E: P.C.
1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Martin,
                                                                                                                                                           E: Diskette, 5.25 inch, IBM PS/2
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                                                                                                                                                                                                                                                                                                     Felfe & Lynch
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         58.9%;
55.6%;
                                                                                                                                            PC-DOS
                                                                                                                                                                                                                                                                                                                                                                     METHOD FOR TREATING THROMBOEMBOLIC CONDITIONS BY INHIBITING REOCCLUSION VIA THE USE OF MULTIPLE BOLUS ADMINISTRATION OF THROMBOLYTICALLY
                                                                                                                                                                                                                                                                                                                                                        ACTIVE PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 33; [Pred. No. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                             360 kb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2;
1.9e+02;
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Sequence 1, Application US/0821
Patent No. 5510330
GENERAL INFORMATION:
APPLICANT: Martin, Ulrich
APPLICANT: Fischer, Stephan
TITLE OF INVENTION: COMBINAL
TITLE OF INVENTION: PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
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Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 5; Conserv
                                                                                                                                                  TELEPHONE: (212) 688-1
TELEFAX: (212) 838-381
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: DE 41 12 398
FILING DATE: 16 Aprli 1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: DE 41 23 845
FILING DATE: 18 JULY 1991
ATTORNEY/ACENT INFORMATION:
NAME: Hanson, No. 5500411man D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (212) 838-38 INFORMATION FOR SEQ ID NO:
                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 355 amino acids
TYPE: amino acids
                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: HANSON, NO. 5510330man D.
REGISTRATION NUMBER: 30,946
REFERENCE/DOCKET NUMBER: BOER 10
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                  OPERATING SYSTEM: PC-DOS
SOFTWARE: WOTOPERFECT
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/217,618
                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
COMPUTER: IBM PS/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: BC TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                    FILING DATE: 25-MAR CLASSIFICATION: 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: New York
STATE: New York
                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         805 Third Avenue
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                                                                                   linear
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                                                                                                                                                                                   (212) 688-9200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Felfe & Lynch
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                                                                                                                                                                                                                                                                                                                                                                                                      Diskette,
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                                                                                                                                                                838-3884
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COMBINATIONS OF THROMBOLYTICALLY ACTIVE
PROTEINS AND NON-HEPARIN ANTICOAGULANTS,
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55.6%;
 58.98;
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 Score
Pred.
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Pred. No. 1.9e+02;
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 No.;
                                                                                                                                                                                                                                                                                                                                                                                                       360 kb storage
 DB 1;
1.9e+02;
                 Length 355;
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; HYPOTHETICAL:
US-09-012-710-12
                                                                                                                  US-08-664-596B-18
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                                           Matches
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Best Local Similarity
                                                                     Query Match
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                                                                                                                                                                                                                  TELEPHONE: (617) 498-82:
TELEFAX: (617) 876-5851
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Treacy, Maurice
APPLICANT: Evans, Cheryl
APPLICANT: Spaulding, Vikki
APPLICANT: Bowman, Michael
TITLE OF INVENTION: SECRETED PROTEINS AND POLYNUCLEOTIDES
TITLE OF INVENTION: ENCODING THEM
                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: BIOWN, SCOTT A.
REGISTRATION UNMBER: 32,724
TELECOMMUNICATION INFORMATION:
                                                                                                                         TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
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                                          Local Similarity hes 6; Conserv
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                                                                                                                                                         STRANDEDNESS:
                                                                                                                                                                                                                                              TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
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1 CMTWNQMN 8
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87 CambridgePark Drive
                                          Conservative
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LaVallie, Edward
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75.0%;
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                                          0;
                                                                     Score 33; DB 1;
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Pred. No. 3
                                                         Pred. No. 66;
                                          Mismatches
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                                                                     Length 131;
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                                          Indels
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RESULT 12
US-08-811-949-61
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                                                                                                                                                                       Patent No. 5840533
GENERAL INFORMATION:
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Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                             Sequence 61,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION UNMBER: US/08/811,949
FILING DATE: 05-MAR-1997
CLASSIFICATION: 435
ATTORNEY/ACENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 18-966-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-413-3000
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             APPLICANT: NIWA, MINEO
APPLICANT: SAITO, YOSHIMASA
APPLICANT: SASAKI, HITOGHI
APPLICANT: HAYASHI, MASAKO
APPLICANT: HOTANI, JOUJI
APPLICANT: KOBAYASHI, MASAKAZU
TITLE OF INVENTION: TISSUE PLASMINOGEN ACTIVATOR
NUMBER OF SEQUENCES: 67
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MEDIUM TYPE: Floppy disk
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LENGTH: 347 amino acids
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APPLICANT: SAITO, YOSHIMASA
APPLICANT: SASAKI, HITOSHI
CORRESPONDENCE ADDRESS:
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TITLE OF INVENTION: TISSUE PLASMINOGEN ACTIVATOR
NUMBER OF SEQUENCES: 67
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CITY: ARLINGTON
STATE: VA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17 CMTTNQTN 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
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NOTANI, JOUJI
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55.6%;
                                                                                                                                                                                                                                                                                                                                                                                   Score 33; DB 2;
Pred. No. 1.8e+02;
1; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MAIER & NEUSTADT,
                                                                                                                                                                                                                                                                                                                                                                                                                         Length 347;
                                                                                                                                                                                                                                                                                                                                                                                       0;
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Patent No.

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US-08-906-791-2
; Sequence 2, Application US/08906791
; Patent No. 6096876
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Best Local Similarity
Watches 6; Conserve
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                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/102
FILING DATE: 02-AUG-1993
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: MIT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
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                                                                                            NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                     APPLICANT: St-Arnaud, Rene
APPLICANT: Glorieux, Francis H.
TITLE OF INVENTION: 1-alpha-Hydroxylase Materials and
TITLE OF INVENTION: Methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Darveau, Andre
TITLE OF INVENTION: Localization and Characterization of the
TITLE OF INVENTION: Wilms' Tumor Gene
NUMBER OF SEQUENCES: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 154 amino acid
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                         STREET: 6300 S.
CITY: Chicago
STATE: Illinoi:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
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                                                                                                                                                                                                                                                                                                                        149 CMTWNQ 154
COUNTRY:
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                                                                           ADDRESSEE:
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         Illinois
7: U.S.A.
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                                                         E: Marshall, O'Toole, Gerstein, Murray & Borun 6300 Sears Towers, 233 South Wacker Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               154 amino acids
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Rose, Elise A.
Housman, David E.
Bruening, Wendy
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Call, Katherine M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein
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02-AUG-1993
V. ETA
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                                                                                                                                                                                                                                                                                                                                                                                       73.2%; Score 41;
100.0%; Pred. No.
tive 0; Mismatc
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                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
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. 3.6;
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Best Local Similarity
Thes 5; Conservi
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Patent No. 60874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
              TELEX: 133521
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: (312) 474-0448 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08,
FILING DATE: 06-AUG-1997
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: O'Toole, Edward M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
APPLICANT:
APPLICANT:
                                                              TELEPHONE: 201-487-5800
                                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: O'TOOle, Edward M.
REGISTRATION NUMBER: 22477
REFERENCE/DOCKET NUMBER: 29
TELECOMMUNICATION INFORMATION:
TELEPHONE: (312) 474-6300
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Kuriyan, John TITLE OF INVENTION: A CRITITLE OF INVENTION: STAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
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MEDIUM TYPE: Floppy disk
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                                 COMPUTER: IBM PC
OPERATING SYSTEM:
SOFTWARE: PatentI
                                                                                                                                                                                   APPLICATION NUMBER: US/09/012,710 FILING DATE:
                                                                                                 REFERENCE/DOCKET NUMBER:
                                                                                                          NAME: Jackson Esq., David A. REGISTRATION NUMBER: 26,742
                                                                                                                                                                   CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                            STATE:
                                                                                                                                                                                                                                                                                                                                                                           STREET: 411 Hack
CITY: Hackensack
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TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                           USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Moarefi, Ismail
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SYSTEM: PC-DOS/MS-DOS
PatentIn Release #1.0, Version #1.30
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Pred. No. 1.8e
0; Mismatches
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REFERENCE/DOCKET NUMBER: WS TELECOMMUNICATION INFORMATION: TELEPHONE: 215-540-9200

REGISTRATION NUMBER:

31,215

WST48PCT

Bak, Mary E

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; MOLECULE TYPE: protein US-08-102-942A-4
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Best Local Similarity
~*~hes 9; Conserv
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US-08-102-942A-4
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                   TELEFAX: 617-861-9540 INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                             CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REGISTRATION NUMBER: MIT-5194A2
                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 449 amino acid
TYPE: amino acid
                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/102,942A
FILING DATE: 02-AUG-1993
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APPLICANT:
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MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: Localization and Characterization of the TITLE OF INVENTION: Wilms Tumor Gene NUMBER OF SEQUENCE: 8

CORRESPONDENCE ADDRESS:
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                               TYPE: amino acid
TOPOLOGY: linear
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TYPE: amino acid
TOPOLOGY: linear
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                                                               449 amino acids
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Bruening, Wendy
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Haber, Daniel A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rose, Elise A.
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RESULT 7
US-08-102-942A-5
; Sequence 5, Application US/08102942A
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Best Local Similarity
7. Annual Sylvanian Sy
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GENERAL INFORMATION:
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Best Local Similarity
Matches 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: 617-861-9540 INFORMATION FOR SEQ ID NO:
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APPLICANT:
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APPLICANT: Darveau, Andre
TITLE OF INVENTION: Localization and Characterization of the
TITLE OF INVENTION: Wilms' Tumor Gene
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APPLICANT:
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NAME: Granahan, Patricia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
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                                                                                                                                                                          235 CMTWNQMNL 243
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                         1 CMTWNQMNL 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
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                                                                                                                                                                                                                                                                                                               Conservative
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Haber, Daniel A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Glaser, Thomas M.
Ito, Caryn Y.
Buckler, Alan J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Haber, Daniel Rose, Elise A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Housman, David E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Call, Katherine M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US/08/102,942A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MIT-5194A2
                                                                                                                                                                                                                                                                                                                                           Score 56; DB 1; Length 449; Pred. No. 0.034;
                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 1;
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NUMBER OF SEQUENCES:

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RESULT 3
US-08-456-907-4
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Best Local Similarity
...thes 9; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                 ; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-234-783-4
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                                                                                                                                  Sequence 4, Appirer
APPLICANT: Morris, Jennifer
APPLICANT: Rauscher III, Frank J.
APPLICANT: Rodeck, Ulrich
TITLE OF INVENTION: WTl Monoclonal &
TITLE OF INVENTION: Use Therefore
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 4,
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Best Local
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                                                                                                      GENERAL INFORMATION:
APPLICANT: Herlyn
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 215-540-5818 INFORMATION FOR SEQ ID NO:
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APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Rauscher III, Frank J
APPLICANT: Rodeck, Ulrich
TITLE OF INVENTION: WT1 Monoclona
TITLE OF INVENTION: Use Therefor
NUMBER OF SEQUENCES: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 429 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-540-9200
TELEFAX: 215-540-5818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Bak, Mary E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/234,783
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
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                                                                                                                                                                                                                                            235 CMTWNQMNL 243
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ZIP: 194
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REGISTRATION NUMBER: 31
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: Howson and Howson
STREET: Spring House Corporate Cntr, PO
CITY: Spring House
STATE: Pennsylvania
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les 9; Conserv
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                                                                                                                                                        Application US/08456907
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Rauscher III, Frank J.
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                                                                                                                                                                                                                                                                                                           100.0%; S
100.0%; P
ative 0;
                     WT1 Monoclonal Antibodies and Methods of Use Therefor
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¤R: WST48USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4.
                                                                                                                                                                                                                                                                                                                             Score 56; DB 1; Length 429; Pred. No. 0.033;
                                                                                                                                                                                                                                                                                                               Mismatches
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Query Match
Best Local Similarity
Thehes 9; Conserve
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GENERAL INFORMATION:
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INFORMATION FOR SEQ ID NO: 4:
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/234,783
FILING DATE: 28-APR-1994
                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/05523
APPLICATION NUMBER: PCT/US95/05523
                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: The Wistar Institute of Anatomy and Biology TITLE OF INVENTION: WTl Monoclonal Antibodies and TITLE OF INVENTION: Methods of Use Therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: WS
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-540-9200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS:
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FILING DATE: 28-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: Bak, Mary E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/456,907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
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                                                                                                                                                                                                                                                                                           STREET: Spring House Corporate Cntr, PO Box 457 CITY: Spring House
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                                                                                                                                                                                                                                                                           STATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
                                                                                                                                                                                                                                                                                                                                 ADDRESSEE:
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GY: linear
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Pred. No. 0.033;
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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Maximum DB seq length: 2000000000
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   Score
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re greater than or equal to the score of the result being pr
is derived by analysis of the total score distribution.
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1: /cgn2_6/ptodata/2,
2: /cgn2_6/ptodata/2,
3: /cgn2_6/ptodata/2,
4: /cgn2_6/ptodata/2,
5: /cgn2_6/ptodata/2,
6: /cgn2_6/ptodata/2,
   Match
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Gapop 10.0 , Gapext 0.
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56
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GenCore version
Copyright (c) 1993 - 2000
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/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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  ВB
US-08-102-942A-2
US-08-234-783-4
US-08-2456-907-4
PCT-US95-05523-4
PCT-US95-05523-4
US-08-102-942A-4
US-08-102-942A-5
US-08-102-942A-5
US-08-102-942A-5
US-08-102-710-12
US-08-664-596B-18
US-08-811-949-61
US-08-137-116-1
US-08-217-618-1
US-08-217-618-1
US-08-217-616-1
US-08-217-616-1
US-08-811-949-47
US-08-811-949-47
US-08-811-949-59
US-08-811-949-59
US-08-811-949-65
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                                  Sequence
Patent No.
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Sequence 4,
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e 14, Appli
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| US-08-102-942A-2 Sequence 2, Application US/08102942A Patent No. 5726288 GENERAL INFORMATION: APPLICANT: Call, Katherine M. APPLICANT: ICO, Caryn Y. APPLICANT: ICO, Caryn Y. APPLICANT: Housman, David E. APPLICANT: Housman, David E. APPLICANT: Housman, David E. APPLICANT: Housman, David E. APPLICANT: HOUSMAN, Wendy APPLICANT: Darveau, Andre TITLE OF INVENTION: Wilns' Tumor Gene NUMBER OF SEQUENCES: 8 CORRESPONDENCE ADDRESS: ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C. STREET: Two Militia Drive CITY: Lexington STATE: Massachusetts COMPUTER READRALE FORM: MEDIUM TYPE: Ploppy disk COMPUTER READRALE FORM: MEDIUM TYPE: DATA: MEDIUM TYPE: DATA: MEDIUM TYPE: DATA: MEDIUM TYPE: DATA: MEDIUM TYPE: Ploppy disk MEDIUM TYPE: Plop | 28 33 58.9 437 2 US-08-811-949-51 Sequence 29 33 58.9 437 2 US-08-811-949-57 Sequence 30 33 58.9 437 2 US-08-811-949-57 Sequence 31 33 58.9 437 2 US-08-811-949-63 Sequence 32 33 58.9 527 1 US-07-609-510B-16 Sequence 33 58.9 527 5 PCT-US91-01025A-2 Patent 34 33 58.9 527 6 5185259-8 Patent 35 33 58.9 527 6 5520931-1 Patent 36 33 58.9 527 6 5520931-1 Patent 37 33 58.9 562 2 US-08-811-949-4 Sequence 38 58.9 562 2 US-08-81-949-4 Sequence 40 33 58.9 562 2 US-08-883-795A-38 Sequence 41 33 58.9 562 6 5185259-3 Sequence 42 33 58.9 562 6 520430-2 Patent 43 33 58.9 562 6 5244676-5 Patent 44 33 58.9 562 6 5244676-5 Patent 45 31 55.4 135 3 US-08-946-914-16 Sequence ALIGNMENTS |
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| O Fi | Sequence 51, Appl Sequence 57, Appl Sequence 63, Appl Sequence 16, Appl Sequence 2, Appl Sequence 43, Appl Sequence 43, Appl Sequence 50, Appl Sequence 38, Appl Sequence 50, Appl Sequence 50, Appl Sequence 38, Appl Sequence 30, Appl Sequence 38, Appl Sequence 36, Appl Sequence 36, Appl Sequence 36, Appl |

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APPLICANT: Haber, Daniel A.

APPLICANT: Rose, Elise A.

APPLICANT: Housman, David E.

APPLICANT: Bruening, Wendy

APPLICANT: Bruening, Wendy

APPLICANT: Darveau, Andre

TITLE OF INVENTION: Localization and Characterization of the

TITLE OF INVENTION: Wilms' Tumor Gene

FILE REFERENCE: 0050.1312-013

CURRENT APPLICATION NUMBER: US/09/929,315

CURRENT FILING DATE: 2001-08-14

PRIOR APPLICATION NUMBER: US 09/037,179

PRIOR FILING DATE: 1998-03-09

PRIOR FILING DATE: 1998-03-09
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APPLICANT: Darveau, Andre
TITLE OF INVENTION: Localization and Characterization of the
FILE REFERENCE: 0050.1312-013
CURRENT APPLICATION NUMBER: US/09/929,315
CURRENT FILING DATE: 2001-08-14
PRIOR APPLICATION NUMBER: US 09/037,179
PRIOR APPLICATION NUMBER: US 08/102,942
PRIOR FILING DATE: 1998-03-09
PRIOR FILING DATE: 1993-08-02
PRIOR APPLICATION NUMBER: US 07/614,161
PRIOR APPLICATION NUMBER: US 07/614,761
PRIOR APPLICATION NUMBER: US 07/614,780
PRIOR APPLICATION NUMBER: US 07/435,780
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Best Local Similarity
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US-09-929-315-4
                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
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LENGTH: 449
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APPLICANT:
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APPLICANT: Glaser, Thomas M.
APPLICANT: Ito, Caryn Y.
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SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 07/795,323 PRIOR FILING DATE: 1991-11-20
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PRIOR APPLICATION NUMBER: US 08/102,942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Unknown
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          235 CMTWNQMNL 243
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Haber, Daniel A.
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Buckler, Alan J.
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Haber, Daniel A.
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Search completed: October 23, 2001, 13:22:51 Job time: 164 sec
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; TYPE: PRT
; ORGANISM: Homo sapien
US-09-929-315-6
                                                                                                                                                                                                                                                                                                                            PRIOR FILING DATE: 1993-08-02
PRIOR APPLICATION NUMBER: US 07/614,161
PRIOR FILING DATE: 1990-11-13
PRIOR FILING DATE: 1990-11-13
PRIOR FILING DATE: 1989-11-13
PRIOR APPLICATION NUMBER: US 07/795,323
PRIOR FILING DATE: 1991-11-20
NUMBER OF SEQ ID NOS: 21
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                                                                                 235 CMTWNQMNL 243
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Pred. No. 0.023;
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US-09-938-864-333

GENERAL INFORMATION:

Application US/09938864

APPLICANT: Gaiger, Alexander

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CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 393
SEQ ID NO 393
LENGTH: 420
TYPE: PAT
ORGANISM: Homo sapiens
US-09-938-864-393
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Best Local Similarity
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Best Local Similarity
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APPLICANT:
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APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
                                                                                                                                                                                                                                                               APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
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CURRENT FILING DATE: 2001-08-24
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NUMBER OF SEQ ID NOS: 413
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TYPE: PRT
ORGANISM: Homo sapiens
374 CMTWNQMNL 382
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                     I CMTWNOMNL 9
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Vedvick, Thomas S.
Sleath, Paul R.
Mossman, Sally
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Smithgall, Molly
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Vedvick, Thomas S.
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                                                        Conservative
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                                                   Score 56; DB 5;
Pred. No. 0.021;
Mismatches
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235 CMTWNQMNL 243

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; FEATURE:
, NAME/KEY: misc_feature
; LOCATION: (0)...(0)
; OTHER INFORMATION: Polypeptide Accession Number P19544
US-09-538-092-960
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; Sequence 960, Application US/09538092
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CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 408
LENGTH: 429
TYPE: PRT
                                                     Query Match
Best Local
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                                    Matches
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CURRENT FILLING DATE: 2000-03-29
PRIOR APPLICATION NUMBER: 60/127,352
PRIOR FILING DATE: 1999-04-01
PRIOR APPLICATION NUMBER: 60/178,965
PRIOR FILING DATE: 2000-02-01
NUMBER OF SEQ ID NOS: 1387
                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Giot, Loic
APPLICANT: Mansfield, Traci A.
TITLE OF INVENTION: Protein Protein Complexes and Method of Using Same
FILE REFERENCE: 15966-542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Evans, Lawrence
APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
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TYPE: PRT
ORGANISM: Homo sapiens
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APPLICANT: McNeill, Patricia D.
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1 CMTWNQMNL 9
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Mossman, Sally
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                                  Score 56; DE
Pred. No. 0.0
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Pred. No. 0.022;
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/929,315
CURRENT FILING DATE: 2001-08-14
PRIOR APPLICATION NUMBER: US 09/037,179
PRIOR FILING DATE: 1998-03-09
PRIOR FILING DATE: 1998-03-09
PRIOR PELICATION NUMBER: US 08/102,942
PRIOR FILING DATE: 1993-08-02
PRIOR APPLICATION NUMBER: US 07/614,161
PRIOR FILING DATE: 1990-11-13
PRIOR FILING DATE: 1990-11-13
PRIOR FILING DATE: 1989-11-13
PRIOR FILING DATE: 1989-11-13
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CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 391
LENGTH: 344
                                                                                                                                                                                                                   SOFTWARE: FastSEQ
SEQ ID NO 2
LENGTH: 345
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APPLICANT: Haber, Daniel A.
APPLICANT: Rose, Elise A.
APPLICANT: Housman, David E.
APPLICANT: Bruening, Wendy
APPLICANT: Darveau, Andre
TITLE OF INVENTION: Localization and Characterization of the
TITLE OF INVENTION: Wilms' Tumor Gene
FILE REFERENCE: 0050.1312-013
                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 07/795,323 PRIOR FILING DATE: 1991-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Call, Katherine M. APPLICANT: Glaser, Thomas M.
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TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
151 CMTWNQMNL 159
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                    1 CMTWNQMNL 9
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Buckler, Alan J.
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Spies, A. Gregory
                                                                       Conservative
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                                                                                         Pred. No. 0.018;
                                                                                                          Score 56;
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Pred. No. 0.018;
                                                                        Mismatches
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                                                                                                          DB 5;
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                                                                       Gaps
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                 ; ORGANISM: Homo sapiens US-09-938-864-346
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Best Local Similarity
"---hes 9; Conserva
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                                                                                                                                       SEQ ID NO 346
LENGTH: 369
TYPE: PRT
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SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 394
LENGTH: 362
TYPE: PRT
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APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
FILE REFERENCE: 210121.465C5
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SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
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CURRENT FILING DATE: 2001-08-24
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TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
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1 CMTWNQMNL 9
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Vedvick, Thomas S.
Sleath, Paul R.
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Spies, A. Gregory
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Vedvick, Thomas S
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                                 Conservative
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                                            Score 56; DB 5; Length 369; Pred. No. 0.019;
                               Mismatches
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175 CMTWNQMNL 183

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APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 344
LENGTH: 133
TYPE: PRT
ORGANISM: Homo sapiens
US-09-938-864-344
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Best Local Similarity
Watches 9; Conserva
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Best Local Similarity
"~+~hes 9; Conserv
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TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT EPPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 258
SEQ ID NO 258
                                                                                                                                     Sequence 395, Applic GENERAL INFORMATION:
                      APPLICANT:
APPLICANT:
APPLICANT:
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                                                                 APPLICANT: Gaiger, Alexander
APPLICANT: McNeill, Patricia D.
APPLICANT: Smithgall, Molly
APPLICANT: Moulton, Gus
APPLICANT:
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                    Moulton, Gus
Vedvick, Thomas S.
Sleath, Paul R.
Mossman, Sally
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Vedvick, Thomas S.
Sleath, Paul R.
     Evans,
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                                                                                                                                                     Application US/09938864
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        Lawrence
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Pred. No. 0.0072;
); Mismatches 0;
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Pred. No. 2.9e+05;
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FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 335
LENGTH: 256
TYPE: PRT
ORGANISM: Homo sapiens
US-09-938-864-335
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TITLE OF INVENTION: COMPOSITIONS AND METHODS FOI
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 395
LENGTH: 214
TYPE: PRT
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Best Local Similarity
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Best Local Similarity
9; Conserve
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                                                                                              ; Sequence 391, Application US/
; GENERAL INFORMATION:
; APPLICANT: Gaiger, Alexander
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                 APPLICANT:
APPLICANT:
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APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
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Moulton, Gus
Vedvick, Thomas S.
Sleath, Paul R.
Mossman, Sally
                                                             Smithgall, Molly
                                                                             McNeill, Patricia
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Vedvick, Thomas S
Sleath, Paul R.
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                                                                                                                               Application US/09938864
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Pred. No. 0.011;
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
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    Score
                                                                                                                                                                                                                                                                                                                                                                                     is
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    protein search, using
   100.0
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1: /cgn2_6/ptodata/2/paa/PCT_NEW_COMB.pep:*

2: /cgn2_6/ptodata/2/paa/US06_NEW_COMB.pep:*

3: /cgn2_6/ptodata/2/paa/US07_NEW_COMB.pep:*

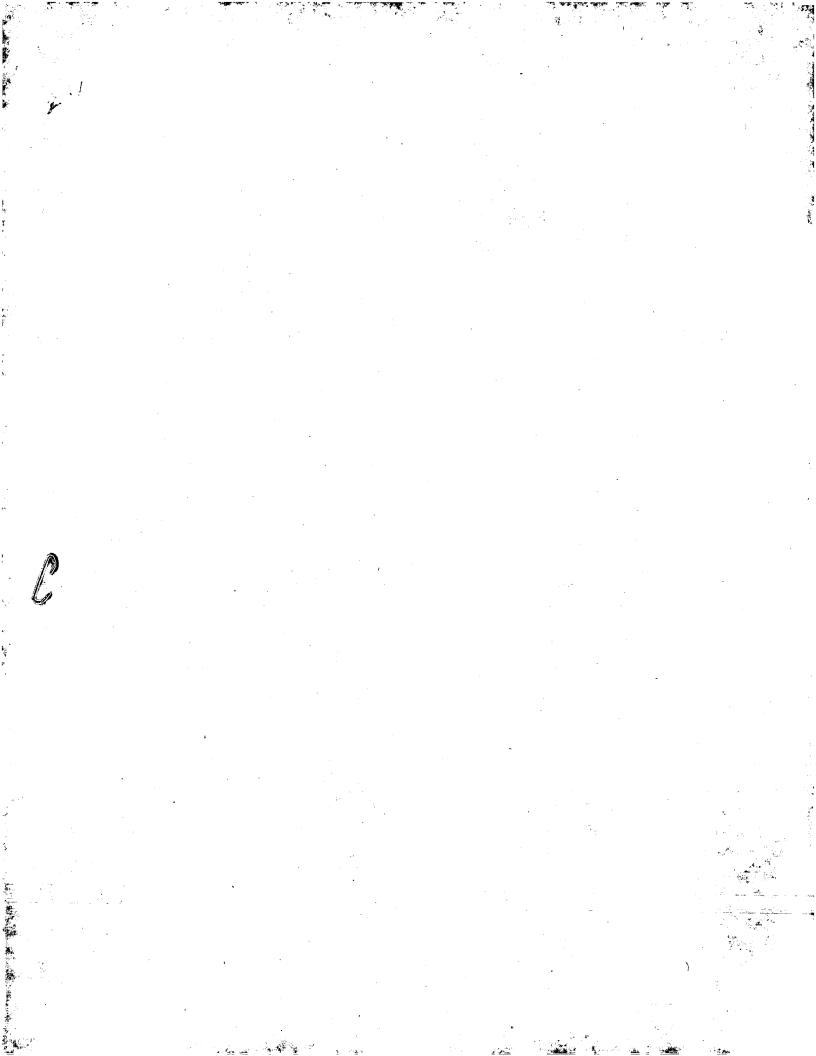
4: /cgn2_6/ptodata/2/paa/US08_NEW_COMB.pep:*

5: /cgn2_6/ptodata/2/paa/US08_NEW_COMB.pep:*

6: /cgn2_6/ptodata/2/paa/US08_NEW_COMB.pep:*
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1 CMTWNQMNL 9
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US-09-938-864-395
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US-09-938-864-391
US-09-938-864-394
US-09-938-864-394
US-09-938-864-393
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49, Appl
234, App
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| RESULT 2 US-09-938-864 Sequence 25 GENERAL INE APPLICANT | Query Mat Best Loca Matches Qy 1 C | RESULT 1 US-09-938-864 Sequence 49 GENERAL INF APPLICANT: APPLICAN | | 22 22 22 23 23 24 24 24 24 24 24 24 24 24 24 24 24 24 |
|--|--|--|------------|---|
| -258 18, Appli 18, Appli 19, Appli 10, Appli 1 | ch 1 similarity 9; Conserva MTWNQMNL 9 | Applica pRMATION: Gaiger, McNeill Smithga Moulton Vedvick Sleath, Mossman Evans, Spies, Boydsto NVENTION: NVENTION: LICATION SNCE: 210 PLICATION FastSEQ for sartSEQ for sartS | | 37 66.1 36 64.3 35 62.5 36 62.5 36 60.7 34 60.7 34 60.7 34 60.7 34 60.7 35 60.7 36 60.7 37 60.7 38 60.7 38 60.7 |
| cation US/09938864 Alexander 1, Patricia D. all, Molly nn, Gus k, Thomas S. Paul R. Paul R. Lawrence A. Gregory | 100.0%; Score 100.0%; Pred. tive 0; Miss | D. D. IMMUNO7 124 724 Version | ALIO | 255 5 US-09-4 428 5 US-09-4 438 6 US-09-4 433 6 US-60-3 343 6 US-60-3 43 7 US-09-7 29 5 US-09-7 29 5 US-09-7 20 5 US-09-7 21 5 US-09-7 22 5 US-09-7 23 1 5 US-09-7 24 1 US-09-7 25 US-09-7 26 US-09-7 27 1 US-09-7 28 1 US-09-7 29 1 US-09-7 20 US-09-7 20 1 |
| | ore 56; DB 5; Length 9 ed. No. 2.9e+05; Mismatches 0; Indels | METHODS FOR WT1 PHERAPY B,864 | ALIGNMENTS | -938-864-305 -760-466-856 -938-864-405 -938-864-405 \$01-08631-4585 \$01-08631-4585 -312-544-9009 -864-761-44716 \$01-1859-3949 -757-025-554 \$01-26189-66 -934-455-66 -934-455-66 -934-455-66 -934-455-86 -934-858-898 -950-082-833 -570-581A-932 \$01-08631-58241 -950-082-896 -834-366-25075 \$01-08656-8691 |
| | 9; 1s 0; | | | sequence seq sequence sequence sequence sequence sequence sequence sequence |
| | Gaps C | | | 305, App 405, App 405, App 4785, Ap 47853, A 9009, Ap 9009, Ap 554, App 554, App 66, Appl 66, Appl 333, App 333, App 325, App 58241, Ap 8691, Ap |

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RESULT 1.

US-09-679-339-49

; Sequence 49, Application US/09679339

; GENERAL INFORMATION:

; APPLICANT: Skelky, Vasir

; APPLICANT: Xu, Jiangchun

; APPLICANT: Cheever, Martin

APPLICANT: Cheever, Martin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Homo sapiens US-09-625-963-2
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NUMBER EAS
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SEQ ID NO 2
LENGTH: 9
TYPE: PRT
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Best Local Similarity 100.
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GENERAL INFORMATION:
APPLICANT: Strauss, Hans Josef
APPLICANT: Gao, Liquan
TITLE OF INVENTION: Immunotherapeutic Methods Using Epitopes of WT-1 and
TITLE OF INVENTION: GATA-1
FILE REFERENCE: ICI 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 326
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 258
                                                          CURRENT APPLICATION NUMBER: US/09/679,339
CURRENT FILING DATE: 2000-10-04
NUMBER OF SEQ ID NOS: 357
                                                                                                               APPLICANT: Reed, Steven G.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: METHODS FOR THE DIAGNOSIS AND THERAPY
TITLE OF INVENTION: OF CHLANYDIA INFECTION
FILE REFERENCE: 210121.492
CURRENT APPLICATION NUMBER: US/09/523,419
CURRENT FILING DATE: 2000-03-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR FILING DATE: 1999-11-02
PRIOR APPLICATION NUMBER: GB9
PRIOR FILING DATE: 1998-11-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/625,963
CURRENT FILING DATE: 2000-07-26
PRIOR APPLICATION NUMBER: PCT/GB99/03572
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TYPE: PRT
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                                               FastSEQ for Windows Version 3.0
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Pred. No. 2.6e+06;
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Pred. No. 2.6e+06;
; Mismatches 0;
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; NUMBER OF SEQ ID NOS: 357
; SOFTWARE: FRSTSEQ for Windows Version 3.0
; SEQ ID NO 258
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Mus musculus
US-09-679-339-258
Search completed: October 23, 2001, 13:27:00 Job time: 413 sec
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Best Local Similarity
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US-09-679-339-49
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                                                                                                                          Query Match
Best Local Similarity
Matches 9; Conserv
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GENERAL INFORMATION:
APPLICANT: Skeiky, Yasir
                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/679,339
CURRENT FILING DATE: 2000-10-04
                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: COMPOSITIONS AND METHODS TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY FILE REFERENCE: 210121.533
                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
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Cheever, Martin
Reed, Steven G.
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Pred. No. 2.6e+06;
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Pred. No. 2.6e+06;
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Sequence 258, Application US/09276484
GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Gaiger, Alexander
APPLICANT: Gaiger, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C1
CURRENT APPLICATION NUMBER: US/09/276,484
CURRENT FILING DATE: 1999-03-25
NUMBER OF SEQ ID NOS: 326
SOFTMARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 258
                                                                                                                                                                                                                                                                                RESULT 9
US-09-276-484A-49
; Sequence 49, Application US/09276484A
; GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
; APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR 1
TITLE OF INVENTION: IMMUNOTHERAPY
; FILE REFERENCE: 210121.465C1
Query Match
Best Local Similarity
"---hes 9; Conserva
                                                                                                    ; ORGANISM: Homo sapien US-09-276-484A-49
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Best Local Similarity
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Best Local Similarity
Thes 9; Conserv:
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: SOFTWARE: FASTSEQ for Windows Version 3.0

: SEQ ID NO 49

: LENGTH: 9

: TYPE: PRT

: ORGANISM: Homo sapien

US-09-276-484-49
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                                                                                                                                   SOFTWARE: FOR SEQ ID NO 49
LENGTH: 9
TYPE: PRT
                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/276,484A CURRENT FILING DATE: 1999-03-25 PRIOR APPLICATION NUMBER: US 09/164,223 PRIOR FILING DATE: 1999-09-30 PRIOR SEQ ID NOS: 326
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1 CMTWNQMNL 9
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              100.0%; Score 56; DB 16; ilarity 100.0%; Pred. No. 2.6e+06; Conservative 0; Mismatches 0;
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Pred. No. 2.6e+06;
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Pred. No. 2.6e+06;
; Mismatches 0;
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RESULT 12
US-09-523-419-258
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US-09-276-484A-258
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; SEQ ID NO 258
; LENGTH: 9
; TYPE: PRT
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LENGTH: 9
TYPE: PRT
Sequence 258, Application US/09523419
GENERAL INFORMATION:
APPLICANT: Hendrickson, Ronald C.
APPLICANT: Probst, Peter
APPLICANT: Reed, Steven G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 49, Application US/09523419
GENERAL INFORMATION:
APPLICANT: Hendrickson, Ronald C.
APPLICANT: Probst, Peter
APPLICANT: Reed, Steven G.
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GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITONS AND METHODS FOR WT1 SPECIFIC
TITLE OF INVENTION: IMMUNOTHERAPY
FILE REFERENCE: 210121.465C1
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Matches 9; Conserv
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CURRENT FILING DATE: 1999-03-25
PRIOR APPLICATION NUMBER: US 09/164,223
PRIOR FILING DATE: 1999-09-30
NUMBER OF SEQ ID NOS: 326
COPTWARE PRIOR FILING SALES SALES
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CURRENT APPLICATION NUMBER: US/09/523,419
CURRENT FILING DATE: 2000-03-10
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SOFTWARE: FastSEQ for Windows Version 3.0
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; ORGANISM: Mus musculus 
US-09-164-223-258
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Best Local Similarity
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US-09-164-223-258
                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/164,223A
CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 258
                                                                                                                                                                                                                                                                                                       Sequence 258, Application US/09164223A GENERAL INFORMATION:
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CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 258
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     Matches
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APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
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APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
CURRENT APPLICATION NUMBER: US/09/164,223A
CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
                                                                                                                     LENGTH: 9
TYPE: PRT
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TYPE: PRT
ORGANISM: Homo sapiens
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Pred. No. 2.6e+06;
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Pred. No. 2.6e+06;
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RESULT 7
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US-09-164-223-258
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US-09-164-223-49
; Sequence 49, Application US/09164223B
; GENERAL INFORMATION:
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Sequence 49, Application US/09276484
GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C1
CURRENT APPLICATION NUMBER: US/09/276,484
CURRENT FILING DATE: 1999-03-25
                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/164,223B
CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 258
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APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
CURRENT APPLICATION NUMBER: US/09/164,223B
CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 49
LENGTH: 9
TYPE: PRT
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GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS
FILE REFERENCE: 20121.465
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Pred. No. 2.6e+06;
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Minimum DB seq length: 0
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Copyright (c) 1993 - 2000 Comp
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16
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    US-09-164-223-49
US-09-164-223-258
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US-09-164-223-258
US-09-164-223-258
US-09-276-484-258
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Sequence 49, Appl
Sequence 258, App
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Sequence 49, Appl
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Sequence 258, Appl
Sequence 258, Appl
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| 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | <u>ა</u> | 34 | ω ω | 32 | 3 <u>1</u> | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 |
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| 21 | 19 | 16 | 16 | 16 | 16 | 15 | 15 | 15 | 15 | 15 | 15 | 14 | 14 | 14 | 14 | 21 | 21 | 14 | 14 | 21 | 21 | 21 | 21 | 21 | 21 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 19 | - 9 |
| S-09-791-477- | -09-523-419-3 | -09-276-484A | S-09-276-484A-31 | S-09-276-484- | 9-276-484- | -09-164-223-3 | -09-164-223- | -09-164-223- | -09-164-223-3 | -09-164-223-: | -09-164-223- | -09-037-179B | -09-037-179B | -09-037-179A | -09-037-179A | -09-785-019- | -09-785-019-3 | -09-037-179в | -09-037-179A | -09-785-019-3 | -09-785-019-3 | 9-791-477-2 | -09-791-477-4 | -09-785-019 | -09-785-019-4 | -09-685-830-2 | -09-685-830-4 | -09-684-361-2 | -09-684-361-4 | s-09-679-339-; | -09-679-339-4 | S-09-625-963-2 | US-09-523-419-258 | -09-523-419-4 |
| Sequence 320, App | 319, | 320, | 319, | 320, | 319, | 320, | 319, | 320, | , | 320, | 319 | 6, | 4, | uence 6, | uence 4, | e 333 | uence 346 | uence 2, | uence 2, | uence 33 | uence 34 | uence 258 | uence 49, | e 258, Ap | uence 49, | uence 258, Ap | uence 49, | uence 258, Ap | ce 49, App | uence | e 49, App | equence 2, Appl | e 258, Ap | equence 49. |

ALIGNMENTS

RESULT 1 US-09-164-223-49 Sequence 49, Application US/09164223 GENERAL INFORMATION:

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CURRENT APPLICATION NUMBER: US/09/164,223
CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 49
LENGTH: 9
TYPE: PRT
ORGANISM: Homo sapiens
US-09-164-223-49
RESULT 2
US-09-164-223-258
; Sequence 258, Application US/09164223
; GENERAL INFORMATION:
; APPLICANT: Gaiger, Alexander
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                                                                                                                                                             Query Match
Best Local Similarity
"hes 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
                                                                                                                                1 CMTWNQMNL 9
                                                                                                                1 CMTWNQMNL 9
                                                                                                                                                                           Conservative
                                                                                                                                                                                      100.0%;
                                                                                                                                                                           0,
                                                                                                                                                                        Score 56; DB 13;
Pred. No. 2.6e+06;
                                                                                                                                                                                                      Length 9;
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Homo sapiens.

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Search completed: October 23, 2001, 13:21:02 Job time: 55 sec
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CC AAN38501 to AAY98811 represent polypeptide sequences, and AAA13848 to CR CC CC myeloid tended to CC primers, used in the exemplification of the
                                                                                                                                                                           Query Match
Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                  Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel polypeptides comprising an immunogenic portion of a native WT1 polypeptide, useful for inhibiting the development of malignant diseases associated with WT1 expression e.g. leukemia or cancer -
                                                                                                                                                                                                                                                                                                                        present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2000-293107/25.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaiger A, Cheever M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-SEP-1998;
25-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-SEP-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200018795-A2
                                                                                                                    1 CMTWNQ 6
                                                                                                 4 cmtwnq 9
                                                                                                                                                                                                                                                                                  9 AA;
                                                                                                                                                                             73.2%; Score 41; DB 21; 1 ilarity 100.0%; Pred. No. 3.4e+05; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98US-0164223.
99US-0276484.
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ID AAY9
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AXX AAY9
XX 31-C
XX WT1
XX WT1;
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                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 7
                                    WT1 derived immunogenic peptide SEQ ID NO:278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel polypeptides comprising an immunogenic portion of a native WT1 polypeptide, useful for inhibiting the development of malignant diseases associated with WT1 expression e.g. leukemia or cancer -
                                                                         31-JUL-2000
                                                                                                                                                AAY98763 standard; Peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2000-293107/25
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25-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WT1; immunotherapy; immunogenic; malignant disease; cancer; leukaemia; metastatic disease; mouse; human; Wilm's tumour; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (CORI-) CORIXA CORP. (GAIG/) GAIGER A.
                                                                                                                                                                                    14
                                                                                                                                                                                                                                         3 cmtwnqm
                                                                                                                                                                                                                                                                             1 CMTWNQM 7
immunotherapy;
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                                                                                                                                                                                                                                                                                                             Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                            invention.
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                                                                                                                                                                                                                                                                                                                 Conservative
                                                                        (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                          AA;
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99US-0276484.
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 immunogenic; malignant disease; cancer; leukaemia;
                                                                                                                                                                                                                                                                                                             82.1%; Score 46; DB 21;
100.0%; Pred. No. 3.4e+05;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                 Length 9
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CC AAY98501 to AAY98811 represent polypeptide sequences, and AAA13848 to cancer invention
                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                              Matches
              WT1; immunotherapy;
metastatic disease;
                                                                   WT1 derived
                                                                                                   31-JUL-2000
                                                                                                                                     AAY98652;
                                                                                                                                                                     AAY98652 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 4; Page 184; 193pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel polypeptides comprising an immunogenic portion of a native WTl polypeptide, useful for inhibiting the development of malignant diseases associated with WTl expression e.g. leukemia or cancer .
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25-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      metastatic disease; mouse; human; Wilm's tumour; immune response; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  present invention.
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(GAIG/) GAIGER A.
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                                                                immunogenic peptide SEQ ID NO:167.
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99US-0276484.
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                immunogenic; malignant disease; cancer; leukaemia;
mouse; human; Wilm's tumour; immune response;
                                                                                                                                                                                                                                                                                                                          82.1%; Score 46;
100.0%; Pred. No.
Live 0; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         English
                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                              3.4e+05;
hes 0;
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       Query Match
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Matches 9
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Best Local Similarity
                                                                                                                               leukaemia, bone-marrow abnormal lulmactum julmace, cancer of the large intestine, lum multiple myeloma, stomach cancer, cancer of the large intestine, lum cancer, breast cancer, blastoma, liver cancer, skin cancer, bladder cancer, breast cancer, or ovary
                                                                                                                                                                       The present invention describes a cancer antigen containing the active component of Wilms' tumour suppressor gene WT1 product, or partial peptides, for cancer vaccines in treating leukaemia and solid tumours. The cancer antigens are useful for cancer vaccines in treating leukaemia, bone-marrow abnormal formation syndrome, malignant lymphoma.
                                                                             Sequence
                                                                                                                   cancer, prostate cancer, uterus cancer, cancer. The present sequence represents
                                                                                                                                                                                                                                                             Claim 2; Page 38-40; 48pp; Japanese.
                                                                                                                                                                                                                                                                                       Cancer antigens based on Wilm's tumor suppressor gene WT1 product or peptide derivatives, for cancer vaccines in treating leukemia and solid tumors e.g. stomach cancer, skin cancer, lung cancer and breast cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wilm's tumour suppressor gene; WT1; cancer; antigen; major histocompatibility complex; leukaemia; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                enhance or induce an immune response specific for WT1 or a cell expressing WT1, useful to inhibit the development of malignant diseases associated with WT1 expression, e.g. leukemia (especially acute/chronic myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma). AAV13862 represent PCR primers, used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                               Sugiyama H, Oka Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                      31-JUL-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
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1 Similarity
9; Conserv
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Conservative (
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                                                                                                                                                                                                                                                                                                                                                                                                                                      98JP-0218093
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                                                                                                         WT1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein; 449
                                                                                                                   sequence represents the mouse Wilms'
                                                                                                       product.
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       0;
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    Score 56; DB 2
Pred. No. 0.14;
Mismatches
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Pred. No.
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                                DB 21; Length 449;
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       0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 449;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antitumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              vaccine; MHC;
                                                                                                                     tumour
    0;
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     Gaps
     0;
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RESULT 13
AAY98616
ID AAY986
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                                                                                                                                                                                            Query Match
Best Local Similarity
"~+~hes 9; Conserv
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AAY80197
BXD
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QY
                                                                                                                                                                                                                                                                                                                   leukaemia, bone-marrow abnormal formation syndrome, malignant lympho multiple myeloma, stomach cancer, cancer of the large intestine, luc cancer, breast cancer, blastoma, liver cancer, skin cancer, bladder cancer, prostate cancer, uterus cancer, cervical cancer, or ovary cancer. The present sequence represents the human Wilms' tumour
                          31-JUL-2000
                                                     AAY98616;
                                                                               AAY98616 standard; Peptide;
                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                       component of Wilms' tumour suppressor gene WTI product, or partial peptides, for cancer vaccines in treating leukaemia and solid tumours. The cancer antigens are useful for cancer vaccines in treating
                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention describes a cancer antigen containing the active component of Wilms' tumour suppressor gene WTl product, or partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cancer antigens based on Wilm's tumor suppressor gene WT1 product or peptide derivatives, for cancer vaccines in treating leukemia and solid tumors e.g. stomach cancer, skin cancer, lung cancer and breast cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wilm's tumour suppressor gene; WT1; cancer; antigen; vaccine; MH major histocompatibility complex; leukaemia; tumour; antitumour.
                                                                                                                                                                                                                                                                                                       suppressor gene WT1 product.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 2; Page 40-42; 48pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2000-195264/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sugiyama
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31-JUL-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human Wilms'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10-FEB-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (SUGI/) SUGIYAMA H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   235
                                                                                                                                                   235 cmtwnqmnl 243
                                                                                                                                                                               1 CMTWNQMNL 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cmtwnqmnl 243
                                                                                                                                                                                                                                                                             449 AA;
                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Oka Y;
                          (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tumour suppressor
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                                                                                                                                                                                                                      100.0%;
                                                                                  9
                                                                                                                                                                                                          0;
                                                                                                                                                                                                                      Score 56; DB 2:
Pred. No. 0.14;
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                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                   DB 21;
                                                                                                                                                                                                          0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vaccine; MHC;
                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                           lymphoma
                                                                                                                                                                                                          Gaps
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derived immunogenic peptide SEQ ID NO:131

and antibody

production

Disclosure;

Columns 39-42; 42pp; English.

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RESULT
AAY98804
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Best Local
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The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WTL, (or variants of the immunogenic portion retaining the ability to react with WTI-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WTI polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, mimetics or polynucleotides can be included with a carrier/excipient in pharmaceutical compositions or with a non-specific immune response enhancer (e.g. an adjuvant or enhancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This is a Wilms' tumour (WT1) polypeptide. The Wilms' tumour gene (WT1) is associated with 11p3 locus on the human chromosome. The polypeptide or immunogenic fragments of the polypeptide can be used to treat cancerous or precancerous conditions (especially Wilms' tumour), treat cancerous or precancerous conditions (especially Wilms' tumour),
                                                                                                                                                                                                Novel polypeptides comprising an immunogenic portion of a native WTl polypeptide, useful for inhibiting the development of malignant diseases associated with WTl expression e.g. leukemia or cancer -
                                                                                                                                                                                                                                                                                            Gaiger A, Cheever M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WT1; immunotherapy; metastatic disease;
                                                                                                                                                                       Disclosure;
                                                                                                                                                                                                                                                                                                                                                                     30-SEP-1998;
25-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                             06-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human WT1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY98804;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           to raise antibodies for diagnostic use. The product allow detection risk of development of Wilms' tumour, e.g. in diseases such as WAGR Denys-Drash syndrome, to be assessed prior to current methods of
                                                                                                                                                                                                                                                                WPI; 2000-293107/25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200018795-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY98804 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                        (CORI-) CORIXA
(GAIG/) GAIGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 CMTWNQMNL 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    449
                                                                                                                                                                     Page 190-191; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                        CORP.
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99US-0276484.
                                                                                                                                                                                                                                                                                                                                                                                                               99WO-US22819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 immunogenic; malignant disease; cancer; leukaemia;
mouse; human; Wilm's tumour; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
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Pred. No. 0.14;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 449;
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RESULT :
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Best Local
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                                                               The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WTI, (or variants of the immunogenic portion retaining the ability to react with WTI-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WTI polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, minetics or polynucleotides can be included with a carrier/excipient in pharmaceutical compositions or with a with a carrier/excipient in pharmaceutical compositions or with a content of the composition of the compo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     compositions and vaccines can be administered to human patients to enhance or induce an immune response specific for WTl or a cell expressing WTl, useful to inhibit the development of malignant diseases associated with WTl expression, e.g. leukemia (especially acute/chronic myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma). AAY98501 to AAY98811 represent polypeptide sequences, and AAAA1348 to AAA13862 represent PCR primers, used in the exemplification of the
                     non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a T cell response) in vaccines. Pharmaceut:
                                                                                                                                                                                                                                                                                                                                                                            Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant diseases associated with WTl expression e.g. leukemia or cancer
                                                                                                                                                                                                                                                                                                                               Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2000-293107/25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaiger A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30-SEP-1998;
25-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vaccine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WT1; immunotherapy;
metastatic disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mouse WT1 protein sequence SEQ ID NO:320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    31-JUL-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (CORI-)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (GAIG/)
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                                                                                                                                                                                                                                                                                                                               Page 191-192;
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99US-0276484
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mouse; human; Wilm's tumour; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        449
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Pred. No. 0.14;
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                     Pharmaceutical
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can be

administered to

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RESULT
AAR85065
ID AAR8
XX
AC AAR8
AC AAR8
XX
DT 02-F
XX
DE Wilm
XX
Wilm
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                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 9; Conserv
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13-NOV-1989;
13-NOV-1990;
Wilms' tumour; WT1; monoclonal antibody; leukaemia.
                           Wilms' tumour
                                                                                                                                                                                                                                                                                       This is a new Wilms' tumour (WT33) polypeptide. The Wilms' tumour gene (WT1) is associated with 1193 locus on the human chromosome. This polypeptide has a region rich in proline and glutamine (AAW47175) indicating that it has a role in transcription regulation. The polypeptide or immunogenic fragments of the polypeptide can be used to treat cancerous or precancerous conditions (especially Wilms' tumour), or to raise antibodies for diagnostic use. The product allow detection of risk of development of Wilms' tumour, e.g. in diseases such as WAGR and Denys-brash syndrome, to be assessed prior to current methods of
                                                     02-FEB-1996
                                                                            AAR85065;
                                                                                                AAR85065 standard;
                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                             Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                New Wilms' tumour polypeptide - and antibody production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; AAV17060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1998-192828/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bruening W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (MASI ) MASSACHUSETTS INST TECHNOLOGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US5726288-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Denys-drash syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wilms' tumour; WT33; cancer treatment; antibody production; WAGR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wilms'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAW47173;
                                                                                                                                                        151 cmtwnqmnl 159
                                                                                                                                                                    1 CMTWNQMNL 9
                                                                                                                       7
                                                                                                                                                                                                                                                                                                                                                                                                           2; Fig 3; 42pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tumour polypeptide (WT33).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Housman DE,
                                                                                                                                                                                                                                                            345 AA;
                                                                                                                                                                                                     Conservative
                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Buckler AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                             WT1 antigen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        93US-0102942.
89US-0435780.
90US-0614161.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9308-0102942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers 3..156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "proline and glutamine rich region"
                                                                                                 Protein;
                                                                                                                                                                                                             100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WT1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ito CY, Pelletier J,
                                                                                                429
                                                                                                                                                                                                    0;
                                                                                                                                                                                                             Score 56; DB 19
Pred. No. 0.11;
                                                                                                 B
                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                           useful for,
                                                                                                                                                                                                                         DB 19;
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                                                                                                                                                                                                    0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Glaser TM;
                                                                                                                                                                                                                        Length 345;
                                                                                                                                                                                                                                                                                                                                                                                                                                            cancer treatment
                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EA;
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                                                                                                                                                                                                   Gaps
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DE XXX
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AAW47176
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                                                                                                                                                                                                                                                                                                                                                                                    Matches
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Best Local
                                      Bruening V
Haber DA,
                                                                                     02-AUG-1993;
13-NOV-1989;
13-NOV-1990;
 New Wilms'
                   WPI; 1998-192828/17.
                                                                                                                                                                 US5726288-A.
                                                                                                                                                                                                      Wilms' tumour; WT33; openys-drash syndrome;
                                                                                                                                                                                                                                     Wilms' tumour polypeptide (WT1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                    The human Wilm's tumour antigen WT1 (sequence given in AAR85065) was used as the basis for the design of a synthetic WT1 sequence (see AAR85066) used to raise monoclonal antibodies specific for the antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Monoclonal antibodies specific for Wilms' tumour protein antigen WTI - useful for detecting, monitoring and diagnosing malignancies characterised by expression of WTI protein, e.g. leukaemia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1995-393072/50.
N-PSDB; AAR85065.
                                                                                                                            02-AUG-1993;
                                                                                                                                              10-MAR-1998
                                                                                                                                                                                                                                                       01-JUN-1998 (first entry)
                                                                                                                                                                                                                                                                            AAW47176;
                                                                                                                                                                                                                                                                                              AAW47176 standard; Protein; 449
                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1; Page 42-43; 54pp; English.
                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Herlyn M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (WIST-) WISTAR INST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-APR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-APR-1995;
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                                                                  (MASI ) MASSACHUSETTS INST TECHNOLOGY.
                                                                                                                                                                                                                                                                                                                                                235
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nes 9; Conserv
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tumour polypeptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                    429
                                      Housman
                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                               Buckler AJ,
                                                                                     93US-0102942.
89US-0435780.
90US-0614161.
                                                                                                                                                                                                                                                                                                                                                                  و
                                                                                                                                                                                                         WT33; cancer treatment; antibody production; WAGR;
ndrome; WT1.
                                                                                                                                                                                                                                                                                                                                                                                                                                    ΑA;
                                                                                                                            93US-0102942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94US-0234783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95WO-US05523.
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                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
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                                      Ito CY,
                                               Call
                                                                                                                                                                                                                                                                                                                                                                                    0;
                           l KM, Darver
lY, Pelletier J,
                                                                                                                                                                                                                                                                                                                                                                                              Score 56;
Pred. No.
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 useful
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                                               Darveau A,
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 for,
                                                                                                                                                                                                                                                                                                                                                                                             0.14;
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e.g.
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                                      Rose
                                      Glaser TM;
Rose EA;
 cancer treatment
                                                                                                                                                                                                                                                                                                                                                                                                      Length 429;
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RESULT
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                                          Query Match
Best Local
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Matches
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Best Local
                            Matches
                                                                                                                  The cancer antiquens are userus to control syndrome, malignant lympho leukaemia, bone-marrow abnormal formation syndrome, malignant lympho multiple myeloma, stomach cancer, cancer of the large intestine, lur cancer, breast cancer, blastoma, liver cancer, skin cancer, bladder cancer, uterus cancer, cervical cancer, or ovary cancer. The present sequence represents a peptide from the human wilms' tumour suppressor gene WTl product.
                                                                                                                                                                                                       The present invention describes a cancer antigen containing the active component of Wilms' tumour suppressor gene WTl product, or partial peptides, for cancer vaccines in treating leukaemia and solid tumours. The cancer antigens are useful for cancer vaccines in treating
                                                                                                                                                                                                                                                                                                    Cancer antigens based on Wilm's tumor suppressor gene WT1 product or peptide derivatives, for cancer vaccines in treating leukemia and solid tumors e.g. stomach cancer, skin cancer, lung cancer and breast cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma). AAY98501 to AAY98811 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                              WPI; 2000-195264/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Wilm's tumour suppressor gene; WT1; cancer; antigen; vaccine; MHC; major histocompatibility complex; leukaemia; tumour; antitumour.
                                                                                                                                                                                                                                                                             Claim 5;
                                                                                                                                                                                                                                                                                                                                                                                      Sugiyama H,
                                                                                                                                                                                                                                                                                                                                                                                                                                             31-JUL-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-FEB-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human Wilms′
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                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY80202 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              present
                                                                                                                                                                                                                                                                                                                                                                                                                  (SUGI/) SUGIYAMA H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4
CMTWNQMNL 9
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                           Similarity
9; Conserv
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9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            invention.
                                                                                                                                                                                                                                                                             Page 18; 48pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; ilarity 100.0%; Conservative
                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                        Oka Y;
                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tumour suppressor
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                                         100.0%;
                            0;
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Pred. No.
                                         Pred. No.
                                                      Score 56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene WT1 product peptide SEQ ID NO:7.
                            Mismatches
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                           . 3.4e+05; ches 0;
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                                                      DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21;
                                                    Length 9;
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                            Indels
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                           0;
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                                                                                                                                                                                            Lymphoma,
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                                                                                                                                                                             lung
                           0,
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                                               Query Match
Best Local
                                      Matches
                                                                                                      and hence is thought to be involved in transcription regulation. Using this WT protein and the DNA, probes and antibodies can be developed for diagnosing WT. Lesions similar to WT may also be detected.
                                                                                                                                            This polypeptide is encoded by the Wilm's tumour (WT) gene where the lip13 locus of human chromosome 11. It contains zinc finger binding domains and a proline/glutamine rich region.
                                                                                     Sequence
                                                                                                                                                                                                   Nucleotide sequence of human chromosome 11 band 13 Wilm's tumour locus - used to diagnose, quantify and treat Wilm's tumours
                                                                                                                                                                                                                                                                       Call KM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wilm's tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wilm's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR12240;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR12240 standard; Protein; 345 AA.
                                                                                                                                                                                  Disclosure; fig 3; 67pp; English.
                                                                                                                                                                                                                                          WPI; 1991-178117/24.
                                                                                                                                                                                                                                                              Haber DA,
                                                                                                                                                                                                                                                                                         (MASI ) MASSACHUSETTS INST TECH.
                                                                                                                                                                                                                                                                                                            13-NOV-1989;
                                                                                                                                                                                                                                                                                                                               13-NOV-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-AUG-1991
151
                  1 CMTWNQMNL 9
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cmtwnqmnl 159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tumour
                                      similarity
9; Conserv
                                                                                                                                                                                                                                                            Glaser TM,
Rose EA,
                                                                                     345
                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
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                                                                                                                                                                                                                                                                                                            89US-0435780
                                                                                                                                                                                                                                                                                                                               90WO-US06629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
3..156
                                                                                                                                                                                                                                                                                                                                                                                                 /label= zinc finger domain 277...304
                                                                                                                                                                                                                                                                                                                                                                                                                                      227..246
                                                                                                                                                                                                                                                                                                                                                                                      /label= zinc finger domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label= proline/glutamine rich region
                                               100.0%;
                                                                                                                                                                                                                                                              Housman DE;
                                                                                                                                                                                                                                                                                                                                                                                                                    276
                                                                                                                                                                                                                                                                      Ito CY,
                                      0
                                               Score 56;
Pred. No.
                                                                                                                                                                                                                                                                       Buckler AJ,
                                      Mismatches
                                               0.11;
                                                        12;
                                                                                                                                                                                                                                                                        Pelletier
                                      0
                                                       Length 345;
                                      Indels
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                                                                                                                                                                 which
                                      0
                                      Gaps
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RESULT AAW47173 ID AAW4

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0

AAW47173 standard; Protein; 345 AA.

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RESULT
AAY98534
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Best Local :
The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WT1, (or variants of the immunogenic portion retaining the ability to react with WT1-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WT1 polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, mimetics or polynucleotides can be included with a carrier/excipient in pharmaceutical compositions or with a corrier/excipient in pharmaceutical compositions or with a corrier/excipient in pharmaceutical compositions or with a corrier/excipient of pharmaceutical compositions or with a corrier/excipient of pharmaceutical compositions or with a corrier/excipient of pharmaceutical compositions and vaccines can be administered to human patients to enhance, or induce an immune response specific for WT1 or a cell
                                                                                                                                                                                                                                                                   Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant diseases associated with WT1 expression e.g. leukemia or cancer
                                                                                                                                                                                                                                                                                                                                                                                                             (CORI-)
(GAIG/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present sequence is peptide epitope WT235-43, produced by WT1 expressing cells and found at residues 235-243 of the WT1 protein, which is recognised by cytotoxic T lymphocytes. WT1 is aberrantly expressed in leukaemias, breast cancer, melanoma and ovarian cancer. The peptide can be used as a vaccine to stimulate the elimination, by cytotoxic T lymphocytes, of cancer cells aberrantly expressing WT1. In addition, the nucleic acid encoding the peptide may also be used in the same manner. Alternatively, the peptide may be used in vitro to produce activated
                                                                                                                                                                                                                                          Claim 4;
                                                                                                                                                                                                                                                                                                                                           WPI; 2000-293107/25.
                                                                                                                                                                                                                                                                                                                                                                             Gaiger A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-SEP-1998;
25-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WT1; immunotherapy;
metastatic disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WT1 derived
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GAIGER A.
                                                                                                                                                                                                                                     Page 151; 193pp; English.
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                                                                                                                                                                                                                                                                                                                                                                             Cheever M;
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99US-0276484.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mouse;
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human; Wilm's tumour; immune response;
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Pred. No. 3.4e+05;
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RESULT
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Best Local
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                                                           comprising 16 consecutive amino acids (aa) or less of a native WT1 polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, mimetics or polynucleotides can be included with a carrier/excipient in pharmaceutical compositions or with a non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a T cell response) in vaccines. Pharmaceutical
compositions and vaccines can be administered to human patients enhance or induce an immune response specific for WTI or a cell expressing WTI, useful to inhibit the development of malignant can associated with WTI expression, e.g. leukemia (especially acute,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma). AAY98501 to AAY98811 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the present invention.
                                                                                                                                                                        The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WTI, (or variants of the immunogenic portion retaining the ability to react with WTI-specific antisera and/or T-cell lines or clones) and
                                                                                                                                                                                                                                                                               Novel polypeptides comprising an immunogenic portion of a native WT1 polypeptide, useful for inhibiting the development of malignant diseases associated with WT1 expression e.g. leukemia or cancer -
                                                                                                                                                                                                                                                                                                                                                 WPI; 2000-293107/25
                                                                                                                                                                                                                                                                                                                                                                                Gaiger A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               expressing WT1, useful to inhibit the development of malignant diseases associated with WT1 expression, e.g. leukemia (especially acute/chronic
                                                                                                                                                                                                                                                     Claim 4; Page 181; 193pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-SEP-1998;
25-MAR-1999;
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9; Conserv
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99US-0276484.
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mouse; human; Wilm's tumour; immune response;
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GenCore version 4.5 Copyright (c) 1993 - 2000 Comp

Compugen Ltd

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Result
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                                                                                                                                                                                                                                                       No
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1: /SIDS8/gcgdata/geneseq/geneseqp/AA1980.DAT:*
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                   Wilm's tumour gene
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Mouse WT1 protein
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WT1 derived immuno
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| PA-8. | u | 14 | 348 | œ | 33 | 44 |
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| prot | AAB47084 | 22 | 337 | æ | ω ω | 40 |
| Tissue plasminogen | AAP90174 | 10 | 314 | œ | 33 | 39 |
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| Arabidopsis thalia | 864 | 21 | 298 | œ | 33 | 37 |
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| 5′ ES | AAY65317 | 21 | 112 | 58.9 | 33 | 26 |
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| Human secreted pro | AAB52030 | 21 | 36 | œ | ω ω | 24 |
| N-terminal domain | AAB12381 | 21 | 837 | 0 | 34 | 23 |
| Rat 1-alpha-OHase | AAW93490 | 20 | 501 | 0 | 34 | 22 |
| Lipid metabolism p | AAB19189 | 21 | 385 | 0 | 34 | 21 |
| o | AAR42506 | 14 | 279 | 0 | 34 | 20 |
| rhizogene | 25 | 14 | 262 | 0 | 34 | 19 |
| derived | 879 | 21 | 9 | 5 | 37 | 18 |
| derived in | AAY98730 | 21 | 9 | ō | 37 | 17 |
| ms' tumou | AAW47175 | 19 | 154 | ښ. | 41 | 16 |
| derived | 865 | 21 | 9 | ω · | 41 | 15 |
| ۵ | AAY98763 | 21 | 9 | Ñ | 46 | 14 |
| derived i | 986 | 21 | 9 | 82. | 46 | 13 |
| Human Wilms' tumou | AAY80197 | 21 | 449 | 100.0 | 56 | 12 |
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ALIGNMENTS

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RESULT
AAY94203
Claim 2; Page 74; 93pp; English.
                           Novel peptides comprising WT-1 and GATA-1 epitopes, their fragments variants, useful as vaccines for cancer immunotherapy \cdot
                                                              WPI; 2000-376123/32.
                                                                                Stauss HJ, Gao L;
                                                                                                      (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD
                                                                                                                           02-NOV-1998;
                                                                                                                                                02-NOV-1999;
                                                                                                                                                                     11-MAY-2000.
                                                                                                                                                                                          WO200026249-A1
                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                  breast cancer; melanoma; ovarian cancer;
                                                                                                                                                                                                                                             WT235-43; peptide; epitope; Wilm's tumour gene; leukaemia;
                                                                                                                                                                                                                                                                 Human cytotoxic T lymphocyte-recognised WT1 peptide WT235-43.
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RC STRAIN-CV. COLUMBIA;

RX MEDLINE-20083487; PubMed-10617197;

RX MEDLINE-20083487; PubMed-10617197;

RX HIN X., Kaul S., Rounsley S.D., Shea T.P., Benito M.-I., Town C.D.,

RA Fujii C.Y., Mason T.M., Bowman C.L., Barnstead M.E., Feldblyum T.V.,

RA Buell C.R., Ketchum K.A., Lee J.J., Ronning C.M., Koo H., Moffat K.S.,

RA Cronin L.A., Shen M., Vanaken S.E., Umayam L., Tallon L.J., Gill J.E.,

RA Adams M.D., Carrera A.J., Creasy T.H., Goodman H.M., Somerville C.R.,

RA Adams M.D., Carrera C.M., Venter J.C., White O., Eisen J.A.,

RA Copenhaver G.P., Freuss D., Nierman W.C., White O., Eisen J.A.,

RA Salzberg S.L., Fraser C.M., Venter J.C.,

RA Mature 402:761-768(1999),

RA Mature 402:761-768(1999),

REMBL; ACO07178; AAD28682.1;

DR Pfam; PF01554; UPF0013; 2.

DR Pfam; PF01554; UPF0013; 2.
                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 60.0
Matches 6; Conservative
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Best Local Similarity 62.5%;
Matches 5; Conservative
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II;
Brassicales; Brassicaceae; Arabidopsis.
NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9SIAO PRELIMINARY; PRT; 480 AA.
Q9SIAO;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
ATZGQ4100 PROTEIN.
ATZGQ4100
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ProDom; PD000531; -; 1.
PROSITE; PS00690; DEAH_ATP_HELICASE; 1.
PROSITE; PS00290; IG_MHC; UNKNOWN_1.
PROSITE; PS0028; ZINC_FINGER_C2H2; UNKNOWN_1.
PROSITE; PS00518; ZINC_FINGER_C3HC4; UNKNOWN_2.
SMART; SM00487; DEXDC; 1.
Hypothetical protein.
SEQUENCE 2322 AA; 262590 MW; D8BE0B79471082E
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| |||| :
44 CTTWNQQH 51
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Pred. No. 2.2e+02;
1; Mismatches 2; Indels
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RESULT
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ID Q9
AC Q9
DT 01
DT 01
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Best Local
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Best Local
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     Q98383;
Q98383;
01-FEB-1997
01-FEB-1997
01-MAY-2000
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Bonfield J., Burton J., Connell M., Copsey T., Coolson A
Craxton M., Dear S., Du Z., Durbin R., Favello A., Fulton L.,
Gardner A., Green P., Hawkins T., Hillier L., Jier M., Johnston L.,
Jones M., Kershaw J., Kirsten J., Laister N., Latreille P.,
Lightning J., Lloyd C., Mcmurray A., Mortimore B., O'Callaghan M.,
Parsons J., Percy C., Rifken L., Roopra A., Saunders D., Shownkeen
Parsons J., Percy C., Rifken L., Roopra R., Sulston J.,
Smaldon N., Smith A., Sonnhammer E., Staden R., Sulston J.,
Thierry-Mieg J., Thomas K., Vaudin M., Vaughan K., Waterston R.,
Watson A., Weinstock L., Wilkinson-Sproat J., Wohldman P.;
"2.2 Mb of contiguous nucleotide sequence from chromosome III of C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         062160;
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EMBL; AE003777; AAR5712A.1; -.

ENGL; AE003777; AAR5712A.1; -.

ENGL; AE003777; AAR5712A.1; -.

ENGL; AE003777; AAR5712A.1; -.

ENGL; AE003777; AAR5712A.1; -.
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01-AUG-1998 (TrEMBLrel.
01-JAN-1999 (TrEMBLrel.
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Nature 368:32-38(1994).
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533 ITWNQYNL 540
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74 CMRWNRM 80
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nes 6; Conserv
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WCE 366 AA; 42102
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     (TrEMBLrel.) (TrEMBLrel.)
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                                                                                                           PRELIMINARY;
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71.48;
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75.0%;
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Last sequence update)
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Created)
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Pred. No. 41;
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38;
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Smith H.O.
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Query Match
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Matches
EU Arabidopsis sequencing project;
Submitted (WAR-2000) to the EMBL/GenBank/DDBJ day
EMBL; AL160033; CAB45785.1; -.
EMBL; AL161491; CAB80911.1; -.
InterPro; IPR000822; -.
InterPro; IPR000916; -.
InterPro; IPR001410; -.
InterPro; IPR001650; -.
InterPro; IPR001650; -.
InterPro; IPR001841; -.
InterPro; IPR002867; -.
InterPro; IPR002867; -.
InterPro; IPR0020867; -.
InterPro; IPR003006; -.
Pfam; PF00097; zf-C3HC4; 2.
Pfam; PF00071; helicase_C; 1.
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SEQUENCE
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Bevan M., Van Der Schueren J., Chuang Y.J., Voet M.,
Volckaert G., Bancroft I., Mewes H.W., Mayer K.F.X.,
Mannhaupt G., Schueller C.;
Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arabidopsis thaliana (Mouse-ear cress).

Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;

Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II;
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Lemcke K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Outlaw M.C., Pringle C.R.; Submitted (JUL-1996) to the EMBL/GenBank/DDBJ EMBL; U72221; AAB09682.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                      EU Arabidopsis sequencing project; Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=3702;
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                                                                                                                                                                                                                                                                                                                                               Weltjens
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                                                                                                                                                                                                                                                                                                            EMBL/GenBank/DDBJ
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Matches 7
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Best Local Similarity
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01-0CT-2000
01-MAR-2001
                                                                                                                                                                                                                                                            01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 16, 01-MAR-2001 (TrEMBLrel. 16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-C-125 / JCM 9153;
STRAIN-C-125 / JCM 9153;
Takami H., Nakasone K., Takaki Y.;
Submitted (MAR-2000) to the EMBL/GenBank/DDBJ
EMBL; AP001515; BAB05990.1; -.
Interpro; IrR000180; -.
PROSITE; PS00869; RENAL_DIPEPTIDASE; 1.
PROSITE; PS00869; RENAL_DIPEPTIDASE; 1.
SEQUENCE 310 AA; 34778 MW; 28696A5A0FC89CC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9HLG8;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9HLG8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bacillus halodurans.
Bacteria; Firmicutes; Bacillus/Clostridium group;
Bacillus/Staphylococcus group; Bacillus.
NCBI_TaxID-86665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00365; Zf-C2H2; 4.

Pfam; PF02165; WT1; 2.

PRINTS; PR00048; ZINCFINGER.

PROSITE; PS00028; ZINC_FINGER_C2H2; 4.

SMART; SM00355; ZnE_C2H2; 1.

DNA-binding; Metal-binding; Nuclear protein; Zinc-finger.

SEQUENCE 416 AA; 45806 MW; 9C362E1684E67668 CRC64;
             NCBI_TakID=2303;
                                             Archaea; Euryarchaeota;
Thermoplasma.
                                                                                                                                       Thermoplasma acidophilum
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                                                                                                                                                                                        TA0260
                                                                                                                                                                                                                        PROBABLE PYRUVATE
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11p13.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CVTWNQMN 223
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75.0%;
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87.5%;
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                                                                                     Thermoplasmales; Thermoplasmaceae,
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16,
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                                                                                                                                                                                                               Last sequence update)
Last annotation updat
N OXIDOREDUCTASE, BETA
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                  Created)
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Pred. No. 14;
1; Mismatches
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Pred. No.
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14;
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ID VA04

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RA Sutton G.G., Mortman J.R., Yandell M.D., Zhang Q., Chen L.X.,

RA Burandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,

RA Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G.,

RA Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G.,

RA Abril J.F., Agbayani A., An H.-J., Andrews Pfannkoch C., Baldwin D.,

RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,

RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,

RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,

RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,

RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,

RA Duston K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,

RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,

RA Bartis N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,

RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,

RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,

RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,

RA Merkulov G., Milshina N. V., Mobarry C., Morris J., Moshrefi A.,

RA Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,

RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,

RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,

RA Syirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,

RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
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Q9VA04;
01-MAY-2000
01-MAY-2000
01-MAY-2000
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SEQUENCE FROM
STRAIN=DSM 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D., Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F., George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata;
Pterygota; Neoptera; Endopterygota; Diptera
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CG15560 PROTEIN CG15560.
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STRAIN-DSM 1728;
MEDLINE-20479972; PubMed=11029001;
MEDLINE-20479972; PubMed=11029001;
Ruepp A., Graml W., Santos-Martinez M.-L., Koretke K.K., Volker C.,
Ruepp A., Graml W., Stocker S., Lupas A.N., Baumeister W.;
"The genome sequence of the thermoacidophilic scavenger Thermoplasma acidophilm.";
Nature 407:508-513(2000).
EMBL; AL445063; CAC11405.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
STRAIN-BERKELEY;
MEDLINE-20196006; PubMed-10731132;
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No.
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20;
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a; Brachycera; Muscomorpha;
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                                                                                                       Pfam; PF00096; zf-C2H2; 4.
Pfam; PF02165; WT1; 2.
PRINTS; PR00049; WILMSTUMOUR.
PROSITE; PS00028; ZINC_FINGER_C2H2; 4.
SMART; SM00355; ZnF_C2H2; 1.
DNA-binding; Metal-binding; Zinc-finger.
SEQUENCE 426 AA; 47590 MW; 46A0B158A9F79C6C CRC64;
                                                                                                                                                                                         Nakayama Y., Yamamoto T., Matsuda Y., Abe S.I.;
"Cloning of cDNA for newt WTI and the differential expression spermatogenesis of the Japanese newt, Cynops pyrrhogaster.";
Submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; ABO13888; BAA76399.1; -.
HSSP; PO8046; 1AAY.
InterPro; IPRO00822; -.
InterPro; IPRO00876; -.
Defan. DEOGO66: a forum:
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InterPro; IPRO0096; -.
Pfam; PE00096; zf-C2H2; 4.
Pfam; PE02165; WT1; 2.
PRINTS; PR00049; WILMSTUMOUR.
PROSITE; PR00028; ZINC_FINGER_C2H2; 4.
DNA-binding; Metal-binding; Zinc-finger.
DNA-binding; Metal-binding; Zinc-finger.
DNA-binding; Metal-binding; Zinc-finger.
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                                                                                                                                                                                                                                                                                                                            Cynops pyrrhogaster (Japanese common newt).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Caudata; Salamandroidea; Salamandridae; Cyno;
MCBI_TaxID=8330;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Chicken counterpart of Wilms' tumor suppressor gene 1."; Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases. EMBL; AB033634; BAA94794.1; -.
                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
TISSUE-TESTIS;
                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9W611
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TISSUE-OVARY;
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225
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1-NOV-1999
1-MAR-2001
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CMTWNQMNL 226
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                       CMTWNQMNL 9
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(TrEMBLrel. 12,
(TrEMBLrel. 16,
                                               Conservative
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Pred. No. 0.(
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; Galliformes; Phasianidae; Phasianinae;
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annotation
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EMBL; X61632; CAA43819.1; JOINED.
EMBL; X61633; CAA43819.1; JOINED.
EMBL; X61634; CAA43819.1; JOINED.
EMBL; X61635; CAA43819.1; JOINED.
EMBL; X61635; CAA43819.1; JOINED.
EMBL; X61636; CAA43819.1; JOINED.
EMBL; X61638; CAA43819.1; JOINED.
                                                                                                         WTI.
Fugu rubripes (Japanese pufferfish) (Takifugu rubripes).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes;
Tetraodontidae; Takifugu.
NCBI_TaxID=31033;
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093433;
01-NOV-1998
01-NOV-1998
01-MAR-2001
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Q15881;
Q1-NOV-1996
Q1-NOV-1996
Q1-MAR-2001
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InterPro; IPRO00976; ...
Pfam; PF00096; Zf-CCH2; 4.
Pfam; PF00096; WILMSTUMOUR.
PRINTS; PR00049; WILMSTUMOUR.
PRINTS; PR00048; ZINCFINGER.
PROSITE; PS00028; ZINC_FINGER_C2H2; 4.
SMART; SM00355; ZNF_C2H2; 1.
DNA-binding; Metal-binding; Nuclear protein; Zinc-finger DNA-binding; Metal-binding; Nuclear PRO5EP ZNC-FINGER CH2; ZNC
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01-NOV-1998 (TremBLrel.
01-MAR-2001 (TremBLrel.
WILMS TUMOUR GENE.
                                Hastie N
                                                              SEQUENCE FROM N.A. Miles C., Elgar G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -i- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARI)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=92241883; PubMed=1572653;
Gessler M., Konig A., Bruns G.A.;
"The genomic organization and exp
Genomics 12:807-813(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WILMS TUMOR WT1
"Complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          235 CMTWNQMNL 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CMTWNQMNL
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9; Conser
sequencing
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Metazoa; Chordata; C
-··+heria; Primates; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TrEMBLrel. (TrEMBLrel. (TrEMBLrel.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
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                                                              Coles E.,
      of.
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180,
      the
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Last sequence update)
Last annotation update)
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Last sequence up
Fugu WAGR
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Pred. No. 0.0
0; Mismatches
                                                              Kleinjan D.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   expression
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   416
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region
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4;
0.0087;
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                                                                                                                                                                                                                                                                                                                                                                                                                     update)
                                                              Vanheyningen V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zinc-finger.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RECEPTORS FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 446;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WT1
   WT1 to
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218

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RESULT
Q91657
         ACCOCC CONTRACTOR OF THE PROPERTY OF THE PROPE
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Best Local S
Matches 9
                                                                                                                                                                                                                                                                                                                                                                                                        Q91657;
01-NOV-1996 (
01-NOV-1996 (
01-MAR-2001 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P79958;
P79958;
01-MAY-1997
TISAUE-MESONEPHROS; MEDILNE-96068905; PubMed-7478606; Kent J., Coriat A.M., Sharpe P.T., "The evolution of WT1 sequence and
                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata;
Amphibia; Batrachia; Anura; M
                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1996 (TrEMBLrel.
01-NOV-1996 (TrEMBLrel.
01-MAR-2001 (TrEMBLrel.
WILMS' TUMOR SUPPRESSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SMART; SM00355; ZnF_C2H2; 1.

DNA-binding; Metal-binding; Nuclear protein; Zinc-finger.
SEQUENCE 407 AA; 45983 MW; E2554C658005870C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR000822; -.
InterPro; IPR000976; -.
Pfam; PF00096; zf-C2H2; 4.
Pfam; PF02165; WT1; 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q91657
                                                                                                                                         SEQUENCE FROM N.A. Carroll T.J., Vize P. Submitted (JAN-1996)
                                                                                                                                                                                                                                    Xenopodinae; Xenopus.
NCBI_TaxID=8355;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRINTS; PR00048; ZINCFINGER.
PROSITE; PS00028; ZINC_FINGER_C2H2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; D82051; BAA11522.1; HSSP; P08046; laay.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tumor suppressor gene,
Gene 175:167-172(1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=97074667: PubMed=8917094;
Semba K., Saito-Ueno R., Takayama G., Kondo M.;
Semba K., Saito-Ueno R., Takayama G., Kondo M.;
"CDNA cloning and its pronephros-specific expression
tumor suppressor gene, WT1, from Xenopus laevis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Ve:
Amphibia; Batrachia; Anura; Mesobatrachia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-1997
01-MAR-2001
                                                                                                                                                                                                                                                                                                                                 Xenopus laevis (African clawed frog)
                                                                                             SEQUENCE OF 289-370 FROM
                                                                                                                                                               EQUENCE FROM

    -!- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY)
    -!- SIMILARITY: BELONGS TO THE NUCLEAR HORMONE REG

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    212 CMTWNQMNL
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9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
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                                                                                                                                                                    P.D.;
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                                                                                                                                                                                                                                                                                                                                                                           01, Created)
01, Last sequence update)
16, Last annotation update)
(WT1).
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                                                                                                                                         the EMBL/GenBank/DDBJ databases
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16,
                                                                                             N.A.
                                                                                                                                                                                                                                                                                     Mesobatrachia;
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                                                                                                                                                                                                                                                                                                             Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 56; DB 13; Pred. No. 0.008;
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  Hastie N., expression
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                                                                                                                                                                                                                                                                                  Vertebrata; Euteleostomi;
ia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vertebrata; Euteleostomi;
ia; Pipoidea; Pipidae;
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on update)
Van Heyningen V.; pattern in the
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                                                                                                                                                                                                                                                                                Pipidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
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RESULT Q918AL Q9
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ID Q
AC Q
DT 01
DT 01
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                                                                                                                 RESULT
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Oncogene 11:1781-1792(1995).

Cri-SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).

Cri-SUMILARITY: BELONGS TO THE NUCLEAR HORMONE RECEPTORS FAMILY.

REMBL; X85733; CAA59738.1;

REMBL; X85733; CAA59738.1;

REMBL; X85733; CAA59738.1;

REMSP; P08046; 1AAY.

RINterPro; IPR00082;

RINterPro; IPR000976;

RINterPro; IPR000976;

RP Pfam; PF00048; Z1-C2H2; 4.

RP Pfam; PF00048; Z1NCFINGER.

RP PRINTS; PR00048; ZINCFINGER_C2H2; 4.

RP PROSITE; PS00028; ZNF_C2H2; 1.
                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                               Query Match
Best Local
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q918A1 PRELIMINARY;
Q918A1;
01-OCT-2000 (TrEMBLrel. 1
01-OCT-2000 (TrEMBLrel. 1
01-MAR-2001 (TrEMBLrel. 1
WT1(-KTS) PROTEIN.
  Q918A0;
01-OCT-2000
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Chicken counterpart of Wilms' tumor suppressor gene 1."; Submitted (CCT-1999) to the EMBL/GenBank/DDBJ databases. EMBL; AB03633; BA094793.1; -. Interpro; IPR000822; -. Interpro; IPR000822; -. Interpro; IPR000976; -. Pfam; PF00096; at CC2H2; 4. Pfam; PF02165; WT1; 2.
                                                                                                                                                                                                                                                                                                                                                                                    PRINTS: PRO0049; WILMSTUMOUR.
PROSTIE; PS00028; ZINC_FINGER_C2H2; 4.
DNA-binding; Metal-binding; Zinc-finge
SEQUENCE 414 AA; 46641 MW; 17EB22F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gallus gallus (Chicken).
Garrota: Metazoa; Chordata;
                                                                    Q918A0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
Archosauria; Aves; N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WT1 ( - KTS )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kudo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=OVARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA-binding; Metal-binding; Nuclear protein; Zinc-finger.
SEQUENCE 409 AA; 46186 MW; 2217FC04612CDE10 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9031;
                                                                                                                                                                                   218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   214 CMTWNQMNL
                                                                                                                                                                                                      1 CMTWNQMNL
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                                                                                                                                                                                                                                                                          similarity
9; Conser
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9; Conser
  (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                          Conservative
                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                   226
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                                                                                                                                                                                                                                                                                             100.
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  15,
15,
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                                                                                                                                                                                                                                                                                                  .08;
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                                                                                                                                                                                                                                                                                                                                                                                  Zinc-finger.
W; 17EB22F8B428A2EF CRC64;
Created)
Last sequence update)
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Pred. No. 0.0
D; Mismatches
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                                                                      PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; Euteleostomi; Galliformes; Phasianidae; Phasiani
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Title:
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Bd
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SPTREMBL_16:*

1: sp_archea:*
2: sp_bacteria
3: sp_fung1:*
4: sp_human:*
5: sp_inverteb:
6: sp_mammal:*
7: sp_mhc:*
7: sp_mhc:*
8: sp_organe1:
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:
12: sp_unclass:
13: sp_vertebr
14: sp_virus:**
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56
1 CMTWNQMNL 9
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Maximum Match 100%
Listing first 45 summaries
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Gapop 10.0 , Gapext 0.5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                      sp_bacteria:*
sp_fungi:*
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sp_vertebrate:*
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25.276 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 80 | 7 | σ | ហ | 4 | ω | N | ب | Result No. |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------|--------------------|--------------------|--------------------|----------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-----------------------|
| 35 | 35 | 35 | ა 5 | 35.5 | 36 | 36 | 36 | 37 | 37 | 38 | 48 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | Score |
| 62.5 | 62.5 | 62.5 | 62.5 | 63.4 | 64.3 | 64.3 | 64.3 | 66.1 | 66.1 | 67.9 | 85.7 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | Query Match Length |
| 347 | 345 | 186 | 183 | 480 | 2322 | 407 | 366 | 619 | 285 | 310 | 416 | 446 | 426 | 417 | 414 | 409 | 407 | 392 | ength DB |
| G | 80 | 8 | 10 | 10 | 10 | 14 | IJ | Ç | _ | N | 13 | 4 | 13 | 13 | 13 | 13 | 13 | 13 | B |
| Q9NAN5 | Q9TG93 | Q34247 | Q9LFV0 | Q9SIA0 | Q9SV27 | Q98383 | 062160 | Q9VA04 | Q9HLG8 | Q9KAL6 | 093433 | Q15881 | Q9W611 | Q918A0 | Q918A1 | Q91657 | P79958 | Q91030 | ID |
| Q9nan5 caenorhabdi | Q9tg93 anniella pu | Q34247 ceratovacun | Q9lfv0 arabidopsis | Q9sia0 arabidopsis | Q9sv27 arabidopsis | Q98383 measles vir | O62160 caenorhabdi | _ | Q9hlg8 thermoplasm | Q9kal6 bacillus ha | O93433 fugu rubrip | homo sap | Q9w611 cynops pyrr | Q9i8a0 gallus gall | Q9i8a1 gallus gall | Q91657 xenopus lae | P79958 xenopus lae | Q91030 gallus gall | Description |

| 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | ω ω | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 |
|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------|--------------------|-------------------|-------------------|-------------------|-------------------|----------|--------|-------------------|--------------------|--------------------|
| 34 | 34 | 34 | 34 | 34.5 | <u>3</u> 5 | 35 | 35 | <u>3</u> 5 | 35 | 3 <u>5</u> | 35 | <u>3</u> 5 | 35 | <u>3</u> 5 | 35 | <u>3</u> 5 | 35 5 | 3 5 | 35 | 35 | <u>ω</u> | 35 | 35 | 35 | 35 |
| 60.7 | 60.7 | 60.7 | 60.7 | 61.6 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 | 62.5 |
| 156 | 141 | 79 | 79 | 580 | 2294 | 1749 | 1368 | 1142 | 1124 | 850 | 849 | 747 | 694 | 661 | 623 | 623 | 555 | 548 | 548 | 545 | 545 | 545 | 544 | 419 | 369 |
| N | 11 | 9 | N | 5 | տ | 11 | G | IJ | u | 10 | 10 | Ģ | 10 | ហ | 9 | 9 | σ | Ç, | υı | σ | ഗ | ഗ | ഗ | 13 | 9 |
| Q9K3K1 | 070429 | Q9MBY5 | Q9KJ55 | Q9V8L4 | Q9N3X8 | Q9 JКU3 | 023821 | Q9GNN7 | 045611 | 004384 | 081906 | Q9TZL0 | Q9SVK2 | Q9W435 | Q9XJ75 | Q9XJW0 | 016168 | 016173 | 016177 | 016171 | 016169 | 016180 | Q9VTV0 | Q9PUT7 | Q9хJ97 |
| Q9k3k1 streptomyce | O70429 rattus norv | Q9mby5 lactococcus | Q9kj55 lactococcus | Q9v814 drosophila | Q9n3x8 caenorhabdi | Q9jku3 rattus norv | Q23821 caenorhabdi | Q9gnn7 caenorhabdi | O45611 caenorhabdi | 004384 brassica ol | O81906 arabidopsis | Q9tzl0 caenorhabdi | Q9svk2 arabidopsis | Q9w435 drosophila | | Q9xjw0 streptococc | Ol6168 drosophila | 016173 drosophila | 016177 drosophila | 016171 drosophila | | | Q9vtv0 drosophila | Q9put7 brachydanio | Q9xj97 streptococc |

ALIGNMENTS

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RESULT 1
091030
ID 091030
PRELIMINARY; PRT; 392 AA.
AC 091030;
DT 01-NOV-1996 (TrEMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-MR-2001 (TREMBLRel. 16, Last annotation update)
DE CHICK WILM'S TUMOUR PROTEIN (FRAGMENT).
GN CWT1.
              δÔ
                                                                                                               Query Match
Best Local
                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                            PRINTS; PRO0049; WILMSTUMOUR.
PROSTIE; PS00028; ZINC_FINGER_C2H2; 3.
SMART; EM00355; ZnF_C2H2; 1.
DNA-binding; Metal-binding; Zinc-finger.
NON_TER 392 392
SEQUENCE 392 AA; 43869 MW; 761F01D356
                                                                                                                                                                                                                                                      Oncogene 11:1781-1792(1995).
EMBL; X85731; CAA59736.1; -.
HSSP; P08046; 1A1G.
                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
TISSUE-WHOLE EMBRYO;
TISSUE-WHOLE EMBRYO;
MEDLINE=96068905; PubMed=7478606;
Kent J., Coriat A.M., Sharpe P.T.,
"The evolution of WT1 sequence and
                                                                                                                                                                                                InterPro; IPR000822; -.
InterPro; IPR000976; -.
Pfam; PF00096; zf-C2H2; 3.
Pfam; PF02165; WT1; 2.
                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                vertebrates.";
1 CMTWNQMNL
                                          Similarity 9; Conserv
                                           Conservative
                                                       100.0%; Score 56; DB 13; Length 392; 100.0%; Pred. No. 0.0077;
                                           0,
                                                                                                               761F01D350E4EDBF CRC64;
                                           Mismatches
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                                                                                                        CDR3_CANAL
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15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
OPAQUE-SPECIFIC ABC TRANSPORTER CDR3.
                                                                                                                                                                                                                            TRANSMEM TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                   the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              J. Bacteriol. 179:7210-7218(1997).
-!- FUNCTION: NOT KNOWN.
-!- DEVELOPMENTAL STAGE: REGULATED IN A CELL-TYPE-SPECIFIC MANNER;
-!- HIGH LEVELS IN WO-1 OPAQUE CELLS, AND UNDETECTABLE LEVELS IN WO-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Balan I., Alarco A.M., Raymond M.;
"The Candida albicans CDR3 gene codes for an opaque-phase ABC transporter.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Candida albicans (Yeast).

Candida albicans (Yeast).

Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetaes;

Saccharomycetales; mitosporic Saccharomycetales; Candida.

NCBI_TaxID-5476;
                                                                                                                                                                                                                                                                                                            Pfam; PF00005; ABC_tran;
PROSITE; PS00211; ABC_TR/
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                                                                                                                                                                                                                                                                                                ATP-binding;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDR3_CANAL
                                                                                                                                                                                                                                                                                                                                    InterPro;
                        1 CMTWNQM 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY: BELONGS TO THE ATP-BINDING TRANSPORT PROTEIN FAMILY (ABC TRANSPORTERS). PDR5 SUBFAMILY.
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                                                Conservative
                                                                                                                                                                                                                                                                                                  Transmembrane;
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                                                                                                                    883
                                                        62.5%;
57.1%;
                                                                                                        170270
                                                                                                        MW;
                                                                                                                                                                                                                                                                                    Glycoprotein; Transport; Repeat.
CYTOPLASMIC (POTENTIAL).
                                              Score 35; DB 1; Le Pred. No. 1.4e+02; 3; Mismatches 0;
                                                                                                                                                    POTENTIAL.
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CYTOPLASMIC
                                                                                                       ATP (POTENTIAL).
W; 08A5C43DA97C06DE CRC64;
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                                                                                                                                                                                                      (POTENTIAL).
                                                                    Length 1501;
                                                Indels
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Search completed: October 23, 2001, 13:28:18 Job time: 401 sec

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                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                            VARIANT
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MEDLINE=91133260; PubMed=2178209;
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NCBI_TaxID=7237;
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+ A CARBOXYLESTBRASE/LIPASE FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GB4E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             $E, JR50E, GB8E,
PubMed=9475741;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         esterase;
                                                                                                                                            291
307
461
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207
467
103
271
536
                                                                                            61021
                                                                                                     STRAINS JR50L

STRAINS JR50E,

J -> G (IN STRAINS GB4E, J1

GB139E, AND GB336E),

M -> T (IN STRAINS GB4E, JR51

GB139E, AND GB336E),

A -> G (IN STRAIN TP'

A -> T (IN STPA'

V -> I (T'

E ->
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N-LINKED (GLCNAC...) (
N-LINKED (GLCNAC...) (
L-> R (IN STRAIN GB8E) (
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F-> N (IN STRAINS GB8E (
F-> D (IN STRAINS JR50E (
N-> A (IN STRAINS JR50E (
N-> 
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BY SIMILAR:
BY SIMILAR:
POTENTIAL.
                                                                                       A -> G (IN STRAIN JR50E).
A -> T (IN STRAIN GB115E).
V -> I (IN STRAIN GB35E).
E -> V (IN STRAIN JR50E).
60535F4DFA639D6A CRC64;
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                                                                                                                                                                                                                                                                                                                                                      R (IN STRAIN GB8E).
R (IN STRAIN GB8E).
N (IN STRAINS GB8E AND GB336E).
D (IN STRAINS JR50E AND GB139E).
A (IN STRAINS JR50E, GB8E, AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GB115E, GB139E, AND GB336E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ESTER +
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ining sequence variation and
Drosophila pseudoobscura.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           There are no restrictions
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                                                                                                                                                                                                                                                       JR50E,
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62.5%;

Score

35;

DВ

Length 545;

Query Match Best Local S Matches 5

similarity
5; Conser

Conservative

62.5%; 71.4%;

Score Pred. 1; Mis

No.

68;

1;

Length 712;

Mismatches

Indels

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Gaps

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THE REPRESENTATION OF COLUMN C
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PRTD_YEAST
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE-94139744; PubMed-8307027;
MEDLINE-94139744; PubMed-8307027;
Buechler M., Tisljar U., Wolf D.H.;
Proteinase yscD (oligopeptidase yscD). Structur
relationship of the yeast enzyme with mammalian
relationship of the yeast enzyme with mammalian
relationship of the yeast enzyme with mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRTD_YEAST P25375;
                                                                              Hydrolase;
METAL
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                       the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro;
InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAY-1992 (Rel. 22, Created)
01-MAY-1992 (Rel. 22, Last sequence update)
15-DEC-1998 (Rel. 32, Last annotation updat
SACCHAROLYSIN (EC 3.4.24.37) (PROTEASE D) (
(OLIGOPEPTIASE YSCD).
PRD1 OR YCL057W OR YCL57W.
                                                                                                                                                        Pfam; PF01432; Pe
PROSITE; PS00142;
                                                                                                                                                                                                                                                                                                                             EMBL; X76504; CAA54039.1; -. EMBL; X59720; CAA42388.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Electrone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina;
     SEQUENCE
                               METAL
                                                                                                                                                                                                                                                           SGD;
                                                                                                                                                                                                                                                                                PIR; S19387; S19387.
MEROPS; M03.003; -.
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Alexandraki D., Galland P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 663-712 FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84 CMQWNQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ALSO KNOWN AS THE THIMET OLIGOPEPTIDASE SUBFAMILY.
                                                                                                                                                                                                                                                           S0000562; PRD1.
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; Metalloprotease;
501 501
502 502
505 505
508 508
712 AA; 81933 MW
                                                                                                                                                                                                         IPR000130; -.
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                                                                                                                                                                             Peptidase_M3;
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1992) to the
                                                                                                                                                        ZINC_PROTEASE; 1.
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ZINC (CATALYTIC) (BY SIMILARITY).
BY SIMILARITY.
ZINC (CATALYTIC) (BY SIMILARITY).
ZINC (CATALYTIC) (BY SIMILARITY).
340910B7FDAFBE37 CRC64;
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G.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Structure, function and ammalian thimet oligopeptidase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    databases
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    collaboration -
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RESULT 12
ESTP_DROME
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ESTA_DROPS
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Best Local S
Matches 5
01-NOV-1990
01-NOV-1990
01-FEB-1996
ESTERASE P P
HYDROLASE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ESTA_DROPS
P25727;
01-MAY-1992
01-MAY-1992
01-OCT-1996
                                                                                                                                                                                                                                    CHAIN
ACT_SITE
DISULFID
DISULFID
DISULFID
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
SEQUENCE
                                                         ESTP_DROME P18167;
                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; M55908; AAA28516.1; -.
HSSP; P21836; IMAH.
FlyBase; FBG00015144; Dpse\Est-5A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the European Bloinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Brady J.P., Richmond R.C., Oakeshott J.G.;
"Cloning of the esterase-5 locus from Drosophila pseu "comparison with its homologue in D. melanogaster.";
MOI. Biol. Evol. 7:525-546(1990).
-!- CATALYTIC ACTIVITY: A CARBOXYLIC ESTER + H(2)O = + A CARBOXYLIC ANION.
                                                                                                                                                                                                                                                                                                                                            SIGNAL
                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS00122; PROSITE; PS00941;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ephydroidea; Dro
NCBI_TaxID=7237;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Drosophila pseudoobscura (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; He
Eterygota; Neoptera; Endopterygota; Diptera;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00135;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR002018; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -I- SIMILARITY: BELONGS TO THE TYPE-B CARBOXYLESTERASE/LIPASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=91133260; PubMed=2178209;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HYDROLASE).
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                                                                                                                               86 CMQWNQ 91
                                                                                                                                                      1 CMTWNQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SWISS-PROT entry is copyright. It is produced through a deen the Swiss Institute of Bioinformatics and the EMBL
                                                                                                                                                                                                                                                                                                                                                        lase;
                                                                                                                                                                                        Similarity
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            90 (Rel. 16, 90 (Rel. 16, 96 (Rel. 33, 96 PRECURSOR (
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2 (Rel. 22,
6 (Rel. 34,
A PRECURSOR
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209
261
261
514
115
                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                     Α,
                                                                                                                                                                                                                                                                                                                                                                                        COesterase;
                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                     esterase;
                                                                                                                                                                                                                                                                                                                                                                CARBOXYLESTERASE_B_1; 1. CARBOXYLESTERASE_B_2; 1.
                                                                                                                                                                                                                                                 21
544
209
105
273
535
535
115
475
                                                                                                                                                                                                                                     61051
                                                                                                                                                                                       62.5%;
83.3%;
         Last sequence update)
Last annotation update)
(EC 3.1.1.1) (EST-P) (CA
                                            Created)
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Last annotation update)
(EC 3.1.1.1) (EST-5A) (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
                                                                                                                                                                                                                                      MW;
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                                                                                                                                                                                       Score
Pred.
                                                                                                                                                                                                                                                                                  ESTERASE 5A
BY SIMILARI
BY SIMILARI
BY SIMILARI
POTENTIAL.
                                                                                                                                                                                                                                    N-LINKED (GLCNAC. . .) (P
; 34A2023B3F2C26DB CRC64;
                                                                                                                                                                                                                                                                                                                                            POTENTIAL
                                                                                                                                                                                                                                                                                           Y SIMILARITY.
Y SIMILARITY.
Y SIMILARITY.
                                                                                                                                                                            Mismatches
                                                                                                                                                                                       35; DB
No. 53;
                                                                    544
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                                                                                                                                                                                                                                                                                                                                 5A.
                                                                      A
            (CARBOXYLIC-ESTER
                                                                                                                                                                                                                                                                                                                                                     Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hexapoda; Insecta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (CARBOXYLIC-ESTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Brachycera;
                                                                                                                                                                                                 Length 544,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pseudoobscura
.";
                                                                                                                                                                                                                                                           (POTENTIAL).
                                                                                                                                                                                                                                                 (POTENTIAL)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALCOHOL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Muscomorpha;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a collaboration -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  outstation
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RESULT
ESTC_DF
                                                                                                                                                                    В
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                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                          CARBOHYD
CARBOHYD
SEQUENCE
Drosophila
Eukaryota;
                              ESTC_DROPS STANDARD; PRT; 545 AA. p25725; O16181; O16182; O16183; O16184; O16185; O16186; O1-MAY-1992 (Rel. 22, Created) O1-MAY-1992 (Rel. 22, Last sequence update) 30-MAY-2000 (Rel. 39, Last annotation update) ESTERASE 5C PRECURSOR (EC 3.1.1.1) (EST-5C) (CARBOXYLIC-ESTER HYDROLASE) (CARBOXYLESTERASE-5C).
                                                                                                                                                                                                                                                                                                              DISULFID
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                               CHAIN
ACT_SITE
ACT_SITE
DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                        Hydrolase;
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; M33780; AAA28520.1; -. PIR; B34089; B34089; H358; P21836; IMAH. FlyBase; FBgn0000594; Est-P. InterPro; IPR002018; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Collet C., Nielsen K.M., Russell | Richmond R.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
NCBI_TaxID-7227;
                                                                                                                     DROPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             use by non-profit institutions as long a modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Molecular analysis of duplicated melanogaster.";
Mol. Biol. Evol. 7:9-28(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS00122; CARBOXYLESTERASE_B_1; 1.
PROSITE; PS00941; CARBOXYLESTERASE_B_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF00135; COesterase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     or send an email to license@isb-sib.ch).
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MEDLINE=90136038;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM
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                                                                                                                                                                    83
                                                                                                                                                                                           1 CMTWNQ 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation. European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEVELOPMENTAL STAGE: MAINLY IN LATE LARVAE.
SIMILARITY: BELONGS TO THE TYPE-B CARBOXYLESTERASE/LIPASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATALYTIC ACTIVITY: + A CARBOXYLIC ANION
                                                                                                                                                                    CMQWNQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUBUNIT: MONOMER.
                                                                                                                                                                                                                  Similarity
5; Conserv
pseudoobscura (Fruit
Metazoa; Arthropoda;
                                                                                                                                                                                                                                                                                                                                                                                                                      Serine
                                                                                                                                                                     88
                                                                                                                                                                                                                                                                                        20
206
466
83
258
514
75
114
262
                                                                                                                                                                                                                  Conservative
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                                                                                                                                                                                                                                                                             AA;
                                                                                                                                                                                                                                                                                                                                                                                                                      esterase;
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544
206
466
102
270
535
75
114
262
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                                                                                                                                                                                                                                                                             61230
                                                                                                                                                                                                                             62.5%;
83.3%;
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BY SIMILARITY.
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BY SIMILARITY.
POTENTIAL.
N-LINKED (GLCNAC...
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                                                                                                                                                                                                                  0;
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                                                                                                                                                                                                                              Score 35;
Pred. No.
Tracheata; Hexapoda; Insecta;
                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R.J., Karl M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 esterase
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                                                                                                                                                                                                                                         Length 544;
                                                                                                                                                                                                                                                                              CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Oakeshott J.G.,
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                                                                                                                                                                                                                  Indels
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(POTENTIAL).
(POTENTIAL).
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RESULT
YJF5_YEAST
YJF5_YEAST
YJF5_YEAST
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      Query Match
Best Local S
Matches
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Best Local S
Matches 6
                                                                                                     SGD;
                                                                                                                                                                                                                                                                                                                                                              01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
HYPOTHETICAL 26.9 KDA PROTEIN IN BIN1-PEPB INTERGENIC REGION
YJL055W OR J1148.
                                                                Hypothetical protein; ATP-binding.
NP_BIND 13 20 ATP (
SEQUENCE 245 AA; 26864 MW; 0C4
                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                  Pohl T.M., Aljinovic G.;
Submitted (SEP-1995) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: TO R.FASCIANS HYPOTHETICAL 21.1 KDA PROTEIN IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               METAL
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                           or send an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   METAL
METAL
                                                                                                                                                                                                                                                                                                                           Eukaryota; Fungi; Ascomycota; Saccharomycetales; Saccharomycetales
                                                                                                                                                                                                                                                                                                                                                    Saccharomyces cerevisiae (Baker's yeast).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE: PS00078; COX2; 1.
Oxidoreductase; Copper; Mitochondrion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR002429; -. Pfam; PF00116; COX2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; X71395;
HSSP; P00404;
                                                                                                                                                                                                                                                                                         SEQUENCE FROM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Electron transport;
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                                                                                                                                                                                                                                        FASCIATION LOCUS (AC P46378).
                                                                                                     ; 249330; C
S0003591;
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l Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity 6; Conserv
                                                                                                                                    and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PS00078; COX2;
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       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
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49
63
161
196
                                                                                                                                                                                                                                                                                       N.A.
                                                                                                                 CAA89346.1; -.
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                                                                                                     YJL055W
                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                             Saccharomycetaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26
48
62
82
224
161
196
200
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26 MITOCHONDRIAL
                  64.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25091 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               64.3%;
85.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MITOCHONDRIAL INTERMEMBRANE (I
COPPER A (PROBABLE).
       4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                Score 36;
Pred. No.
                                                                                                                                                                                                                                                                                                                                        Saccharomycotina; Saccharomycetes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MITOCHONDRIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROBABLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROBABLE
                                                                TP (POTENTIAL).
0C49E7FC4F1E7CA2
       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                          245
               DB
17;
                                                                                                                                                                                                                                                                                                                             Saccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Transmembrane; Inner membrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                         A
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                            Length 245;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 224;
                                                                 CRC64;
       Indels
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     0;
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     Gaps
     0
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RESULT 10
SNR_YEAT
ID SYRAST
ID SYRAST
ID SYRAST
ID O1-OCT
DT 01-OCT
DT 01-OCT
DT 01-OCT
DT 30-MAX
DE SERNUME
DE SERNED
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OC TAIS
RN [1]
RN FOOLIT
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BINDING
ACT_SITE
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01-OCT-1996
30-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; L41927; AAC41
EMBL; Z71646; CAA96
HSSP; P24941; 1AQ1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SSK2_YEAST
P53599;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (MAY-1996) to the EMBL/GenBank/DDBJ-!- FUNCTION: KIMASE INVOLVED IN A SIGNAL TRANACTIVATED BY CHANGES IN THE OSMOLARITY OF ENVIRONMENT. ACTIVATES THE PBS2 MAP KINASE PHOSPHORYLATION.
                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                Transferase;
                                                                                                                                                                                                                                                                                                                                     PROSITE; PS00107; PROTEIN_KINASE_ATP; 1
PROSITE; PS00108; PROTEIN_KINASE_ST; 1.
PROSITE; PS50011; PROTEIN_KINASE_DOM; 1
                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00069;
                                                                                                                                                                                                                                                                                                                                                                                                                         SGD; S0005314; SSK2.
InterPro; IPR000719; -.
InterPro; IPR002290; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           containing osmosensor.";
Science 269:554-558(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Saccharomyces cerevisiae (Baker's yeast).
Eukaryota; Fungi; Ascomycota; Saccharomycotina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SENSOR KINASE 2).
SSK2 OR YNR031C OR N3276.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-OCT-1996 (Rel. 34, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
SERINE/THREONINE PROTEIN KINASE SSK2 (EC 2.7.-.-) (SUPPRESSOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Maeda T., Takekawa M., Saito H.; "Activation of yeast PBS2 MAPKK by containing osmosensor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=95350642; PubMed=7624781;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Saccharomycetales;
609 TWNELNL 615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 160
                                                                                                             Local
                                        3 TWNQMNL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUBUNIT: INTERACTS WITH BY SSK1.
SIMILARITY: BELONGS TO THE SER/THR
MAP KINASE KINASE KINASE SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the EM
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                                                                                     Similarity
5; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               non-profit institutions as long
                                                                                                                                                                                                     1266
1272
1295
1295
1390
1579
                                                                                     Conservative
                                                                                                                                                                                                                                      0011; PROTEIN_KINASE_DOM; 1.
Serine/threonine-protein kinase; ATP-binding.
266 1558 PROTEIN KINASE.
272 1280 ATP (BY SIMILARITY).
295 1295 ATP (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAC41665.1;
CAA96311.1;
                                                                                                                                                                                                                                                                                                                                                                                                        pkinase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                     AA;
                                                                                                                                                                                                                          1390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               34, Created)
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                                                                                                           64.3%;
71.4%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .' .'
                                                                                                                                                                                              BY
MW;
                                                                                     2,
                                                                                                        Score 36;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                Mismatches
                                                                                                                                                                                                                          SIMILARITY
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AMIDOTRANSFERASE HI
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Ishikawa T.;
STRAIN-NCDO 2118;
MEDLINE-93015709; PubMed-1400209;
Delorme C., Ehrlich S.D., Renault P.;
"Histidine biosynthesis genes in Lactococcus
J. Bacteriol. 174:6571-6579(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZN_FING
ZN_FING
ZN_FING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                               SEQUENCE FROM N.A.
                                                                                                             Lactococcus lactis (s
Bacteria; Firmicutes;
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Q02132;
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PROSITE; PS50157; ZINC_FINGER_C2H2_2; 4.
Zinc_finger; Metal-binding; DNA-binding; Repeat;
Transcription regulation; Alternative splicing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR00048; ZINCFINGER. PRINTS; PR00049; WILMSTUMOUR
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InterPro; IPR000976;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -i- SUBCELLULAR LOCATION: NUCLEAR.
-i- ALTERNATIVE PRODUCTS: TWO ALTERNATIVE SPLICE SITES EXISTS.
-i- DEVELOPMENTAL STAGE: EXPRESSED DURING KIDNEY DEVELOPMENT.
-i- SIMILARITY: BELONGS TO THE EGR FAMILY OF C2H2-TYPE ZINC-FINGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of WT1.
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                                                                                       NCBI_TaxID=1360;
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                                                                                                    actococcus
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FUNCTION: POTENTIAL ROLE IN THAND BINDS TO THE DNA SEQUENCE
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438
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ZINC FIGERS.

C2H2-TYPE.

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ACT_SITE 81 81

ACT_SITE 183 183

ACT_SITE 185 185

SEQUENCE 202 AA; 22440 M
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Q09334;
Q1-NOV-1995
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Clausiliidae; Alopiinae;
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                                                                                                                                                                                                                                                                                                                                                                                                       CYTOCHROME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            use by non-profit institutions as long a modified and this statement is not removed.
                                                                                                             (Gastropoda: Clausiliidae).";

J. MOL. EVOL. 38:369-382(1994).

-i. FUNCTION: CYTOCHROME C OXIDASE IS THE COMPONENT OF THE RESPIRATORY CHAIN THAT CATALYZES THE REDUCTION OF OXYGEN TO WATER. SUBUNIT 1.

3 FORM THE FUNCTIONAL CORE OF THE ENZYME COMPLEX. SUBUNIT 2

TRANSFERS THE ELECTRONS FROM CYTOCHROME C VIA ITS BINUCLEAR COPPER A CENTER OT THE BIMETALLIC CENTER OF THE CATALYTIC SUBUNIT 1.

-i. CATALYTIC ACTIVITY: 4 FERROCYTOCHROME C + O(2) = 2 H(2)O +
                                                                                                                                                                                                                         "Novel features of metazoan mtDNA revealed three mitochondrial DNA segments of the lar (Caetropode, Clausilidae) ".
                                                                                                                                                                                                                                                       MEDLINE=94275881; PubMed-8007005; Douris V., Rodakis
                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=27820;
                                                                                                                                                                                                                                                                                                                                                             Mitochondrion
                                                                                                                                                                                                                                                                                                                                                                           Albinaria turrita
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PIGM; PROVITE; PS00442; GATASE TYPE I; 1.
PROSITE; PS00442; GATASE TYPE I; 1.
PROSITE; PS00442; GATASE TYPE I; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIMILARITY: BELONGS TO THE HISH FAMILY.
SIMILARITY: CONTAINS 1 TYPE-1 GLUTAMINE AMIDOTRANSFERASE DOMAIN.
                                                        SIMILARITY: BELONGS TO THE CYTOCHROME C OXIDASE SUBUNIT 2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                    SUBCELLULAR LOCATION:
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                                                                                                   4 FERRICYTOCHROME C
                                                                        INNER MEMBRANE
SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
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inae; Albinaria.
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01-AUG-1991 (Rel. 19, Created)
01-AUG-1991 (Rel. 19, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
WILMS TUMOR PROTEIN HOMOLOG.
WT1 OR WT-1
Mus musculus (Mouse).
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InterPro; IPR000976; -.
Pfam; PF00096; zf-C2H2; 4.
PRINTS; PR00048; ZINCFINGER.
PRINTS; PR00049; WILMSTUMOUR.
PROSITE; PS00028; ZINC_FINGER_C2H2_1; 4.
PROSITE; PS00028; ZINC_FINGER_C2H2_2; 4.
PROSITE; PS50157; ZINC_FINGER_C2H2_2; 4.
Zinc_finger; Metal-binding; DNA-binding; Repeat; Nuclear protein;
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VARSPLIC
                                                                                                                                                                                                                                               VARIANT
 NCBI_TaxID=10090;
[1]
                   Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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PIR; S08273; S08273.
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", M802219; AAA61299.1; J

", M80220; AAA61299.1; J

", M80221; AAA61299.1; J

", M80228; AAA61299.1; J

", M80228; AAA61299.1; J

", M80239; AAA61299.1; J

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", M80239; AAA61299.1; J
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G -> A (IN WT).
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C -> Y (IN DDS).
/FTId=VAR_007743.

C -> G (IN DDS).
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R -> C (IN WT).
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R -> H (IN DDS).
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H -> Q (IN DDS).
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TRANSPAC; T02351; -.

MGD; MGI:98968; Wtl.

InterPro; IPR000822; -.

InterPro; IPR000822; -.

InterPro; IPR000976; -.

Pfam; PF00096; zf-C2H2; 4.

PRINTS; PR00048; ZINCFINGER.

PRINTS; PR00049; WILMSTUMOUR.

PROSITE; PS00028; ZINC_FINGER_C2H2_1; 4.

PROSITE; PS00028; ZINC_FINGER_C2H2_1; 4.

Zinc-finger; Metal-binding; DNA-binding; Repeat; Nuclear protein;

Zinc-finger; Metal-binding; DNA-binding; Repeat; Anti-oncogene.
                                                 Sus scrofa (Pig).
Eukaryota; Metazo
Mammalia; Eutheri
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                       NCBI_TaxID=9823;
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PIR; A39692; A39692.
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                 SEQUENCE FROM N.A.
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                     Little M.H., Williamson K.A., Mannens m., no Hastle N., van Heyningen V.; "Evidence that WII mutations in Denys-Drash "Evidence that WII mutations in Denys-Drash".
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Zinc finger patients.";
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Hastie N.D.;
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MEDLINE=92279213; PubMed=1317572;
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"Isolation, characterization, and expression of the
tumor gene (WTl) during kidney development.";
Mol. Cell. Biol. 11:1707-1712(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Placenta;
MEDLINE=92052142;
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MEDLINE=90158822; Pu
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Mammalia; Eutheria;
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                                                                                    MEDLINE=93271983;
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60:509-520(1990)
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                dominant-negative fashion."
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PubMed=2154702;
Cavenee W.,
                                                                                 PubMed=8388765;
                                                                                                                                                                                                                                                                                                                                                                                                                                     Sci. U.S.A. 89:4791-4795(1992).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             New
[13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Haber D.A., Buckler A.J.; "WT1: a novel tumor suppressor New Biol. 4:97-106(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gubler M.-C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Jeanpierre C., Der Cecille A., Elion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=98198341; PubMed=9529364; Jeanpierre C., Denamur E., Henry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Schmidt D., Weirich A., Ludwig R., Royer-Pokora B.; "Correlation of germ-line mutations and two-hit inactivation WT1 gene with Wilms tumors of stromal-predominant histology." Proc. Natl. Acad. Sci. U.S.A. 94:3972-3977(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VARIANT MESOTHELIOMA GLY-273
MEDLINE=94004972; PubMed=840
Park S., Schalling M., Bernal
Roberts D., Fletcher J., Shi
                                                                                                           between
                                                                                                                                                                                                                                                                                                                                                                              FASEB J.
                                                                                                                                                                                                                                                                                                                                                                                         suppressor.
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database.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Identification of constitutional WT1 mutations,
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DISEASE: WILM'S TUMOR (WT) IS AN EMBRYONAL MALIGNANCY OF THE KINEY THAT AFFECTS APPROXIMATELY 1 IN 10,000 INFANTS AND YO CHILDREN. IT OCCURS BOTH IN SPORADIC AND HEREDITARY FORMS. INACTIVATION OF WT1 IS ONE OF THE CAUSES OF WILM'S TUMOR. DISEASE: PATIENTS WITH DENYS-DRASH SYNDROME (DDS), WHICH IS CHARACTERIZED BY A TYPICAL NEPHROPATHY AND GENITAL ABNORMALI
                                                                                                                                                                                  SCLEROSIS (DMS), A I SIMILARITY: BELONGS
                                                                                                                                                                                                      HAVE DEFECTS IN THE WT1 GENE.
DISEASE: DEFECTS IN WT1 ARE ALSO
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ALTERNATIVE PRODUCTS: TWO ALTERNATIVE
TISSUE SPECIFICITY: EXPRESSED IN THE R
                                                                                                                                                                                                                                                                                                                                                     AND BINDS TO THE DNA SEQUENCE
                                                                                              European
                                                                                                                                                          DATABASE: NAME-WT1;
                                                                                                                                              WWW="http://www.umd.necker.fr:2003/".
                                                                                                                                                                                                                                                                                                                                                                                                                WT1 Wilms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S., Schalling M., Bernard A., Maheswaran S., rts D., Fletcher J., Shipman R., Rheinwald J., fin J., Minden M., Housman D.E., Haber D.A.; Wilms tumour gene WTl is expressed in murine ues and mutated in a human mesothelioma.";
                                                                                                           SWISS-PROT entry is copyright. It is produced through een the Sw iss Institute of Bioinformatics and the E^{N}
X51630;
M80232;
M80217;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hum.
                                             opean Bioinformatics Institute. There are no restrictions non-profit institutions as long as its content is in d and this statement is not removed. Usage by and for cons requires a license agreement (See http://www.isb-slb.ch/an an email to license@isb-slb.ch).
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7:896-903(1993).
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 AAA61299.
AAA61299.
                         CAA35956.1;
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RESULT 3
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01-OCT-1996
01-OCT-2000
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PROSITE; PS00028; ZINC_FINGER_C2H2_1; 4.
PROSITE; PS50157; ZINC_FINGER_C2H2_2; 4.
Zinc-finger; Metal-binding; DNA-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
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Kent J., Coriat A.M., Sharpe P.T.,
"The evolution of WTl sequence and
vertebrates.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alligator mississippiensis (American alligator).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Crocodylidae; Alligatorinae; Alligator.
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HSSP; P08046;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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SUBCELLULAR LOCATION: NUCLEAR.
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SIMILARITY: BELONGS TO
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9; Conservative
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R PROTEIN (FRAGMENT).
                                                                                                                                                                                                                   Conservative
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    RESULT 4
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ID WT1_HUMAN STAN
AC P19544;
DT 01-FBB-1991 (Rel. 1
DT 01-OCT-2000 (Rel. 4
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01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence up
01-OCT-2000 (Rel. 40, Last annotation
WILMS, TUMOR PROTEIN HOMOLOG.
WITOR WT-1.
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PROSITE; PS50157; ZINC_FINGER_C2H2_2; 4.

Zinc-finger; Metal-binding; DNA-binding; Repeat; Nuclear protein;
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C;Accession: B34089
R;Collet, C.; Nielsen, K.M.; Russell, R.J.; Karl, M.; Oakeshott, J.G.; Richmond, R.C. Mol. Biol. Evol. 7, 9-28, 1990
A;Title: Molecular analysis of duplicated esterase genes in Drosophila melanogaster. A;Reference number: A34089; MUID:90136038
A;Accession: B44089
A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-944 <COL>
A;Coross-references: GB:M33701; GB:M33780; GB:M33781; NID:g157377; PID:g157379
A;Coross-references: GB:M33701; GB:M33780; GB:M33781; NID:g157377; PID:g157379
A;Coross-references: FlyBase:Est-P
A;Coros-references: FlyBase:FBgn0000594
C;Superfamily: cholinesterase; cholinesterase homology
C;Keywords: carboxylic ester hydrolase
Search completed: October 23, 2001, 13:22:06 Job time: 119 sec
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83 CMQWNQ 88
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C;Accession: T10542
R;Bevan, M.; Van Der Schueren, J.; Chuang, Y.J.; Voet, M.; Robl
submitted to the Protein Sequence Database, June 1999
A;Reference number: Z17080
A;Accession: T10542
A;Molecule type: DNA
A;Molecule type: DNA
A;Residues: 1-2322 <BEV>
A;Cross-references: EMBL;AL080237; GSPDB;GN00062; ATSP:F3I3.40
A;Experimental source: cultivar Columbia; BAC clone F3I3
                                                                                                                                                                                                                                                                                                                                                                         hypothetical protein F3I3.40 - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 02-Sep-2000 C;Accession: T10542
                                                                                   A; Map position: 4
A; Introns: 320/3; 775/3; 1366/1; 1774/1; 1832/2; C; Superfamily: RING finger homology
F;1914-1961/Domain: RING finger homology <RRN>
                                                                                                                                                                      C;Genetics:
A;Gene: ATSP:F3I3.40
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C;Superfamily: unassigned Ser/Thr or Tyr-specific protein kinases; protein
C;Keywords: ATP; phosphotransferase; protein kinase
E;1264-1558/Domain: protein kinase homology <KIN>
F;1272-1280/Region: protein kinase ATP-binding motif
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A; Residues: 1-1579 <POH>
A; Cross-references: EMBL: 271646; NID: 91302526; PIDN: CAA96311.1;
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N;Alternate names: protein N3276; protein YNR031c
C;Species: Saccharomyces cerevisiae
C;Date: 13-Jan-1996 #sequence_revision 23-Feb-1996 #text_change 24-Sep-1999
C;Accession: S59801; S63362
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Science 269, 554-558, 1995
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        64
62
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        5 W
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homology <RRN>
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Pred.
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No.
        ЖO;
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        DB 2;
3.7e+02;
                                                                                                                              1944/3; 1982/1; 2059/3; 2141/1; 2233/3
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                         Length 2322
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  carboxylesterase (EC 3.1.1.1) P - fruit fly (Drosophila melanogaster)
C; Species: Drosophila melanogaster
C; Date: 01-Jun-1990 #sequence_revision 25-Sep-1992 #text_change 24-No
                                                                RESULT
B34089
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C;Genetics:
C;Gene: At2g04100
A;Gene: Ar2g04100
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A; Introns: 89/3
A; Note: F14F8_140
                                                                                                                                                                                                                                                                     A;Cross-references: EMF
A;Experimental source:
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                               ribosomal protein 3-like protein F14F8.140 [imported] - Arabidopsis thaliana (Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 18-Aug-2000 #sequence_revision 18-Aug-2000 #text_change 02-Sep-2000 C;Accession: T51405 R;Sato, S.; Nakamura, Y.; Kaneko, T.; Kato, T.; Asamizu, E.; Kotani, H.; Tab
                                                                                                                                                                                                                                                                                                                                                                              submitted to the Protein A; Reference number: Z253 A; Accession: T51405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Gene: At2g0410
A; Map position:
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A;Molecule type: DNA
A;Residues: 1-480 <STO>
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A;Accession: F84454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y. M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter Nature 402, 761-768, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hypothetical protein At2g04100 [imported] - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001
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A; Residues: 1-183 <SAT>
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Best Local Similarity
Matches 6; Conserv
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ce: cultivar Columbia; BAC clone F14F8
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50;
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August 2000
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25-Sep-1992 #text_change 24-Nov-1999

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monocyte adherence-induced protein 5 alpha - human
C;Species: Homo sapiens (man)
C;Date: 06-Nov-1992 #sequence_revision 06-Nov-1992 #text_change 03-May-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Bolotin, A.; Wincker, P.; Mauger, S.; Jaillon, O.; Malarme, K.; Weissenbach, Genome Res. in press, 2001
A;Title: The complete genome sequence of the lactic acid bacterium.
A;Reference number: A86625
A;Accession: D86776
                                                           RESULT
B60407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             amidotransferase (EC 2.4.2.-) [imported] - Lactococcus lactis subsp. lactis
C;Species: Lactococcus lactis subsp. lactis
C;Date: 23-Mar-2001 #sequence_revision 23-Mar-2001 #text_change 31-Mar-2001
C;Accession: D86776
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A;Residues: 1-202 < DEL>
A;Residues: 1-202 < DEL>
A;Cross-references: GB:U92974; GB:M90760; GB:M90761; NID:g2565137; PIDN:AAB81907.1;
A;Cross-references: GB:U92974; GB:M90760; GB:M90761; NID:g2565137; PIDN:AAB81907.1;
A;Note: sequence extracted from NCBI backbone (NCBIN:115814, NCBIP:115831)
C;Superfamily: amidotransferase hisH; trpG homology
C;Keywords: glycosyltransferase; pentosyltransferase
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A;Experimental source: strain IL1403
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C;Species: Lactococcus lactis subsp. lactis
C;Date: 24-Feb-1994 #sequence_revision 18-Nov-1994 #text
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A; Residues: 1-202 <STO>
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J. Bacteriol. 174, 6571-6579, 1992
A;Title: Histidine biosynthesis genes in Lactococcus lactis subsp. lactis A;Reference number: A45734; MUID:93015709
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Best Local
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Pred. No.
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A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-366 <WIL>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            conserved hypothetical protein YJI.055w - yeast (Saccharomyces cerevisiae) N;Alternate names: hypothetical protein J1148 C;Species: Saccharomyces cerevisiae C;Date: 08-Jul-1995 #sequence_revision 08-Sep-1995 #text_change 08-Oct-1999
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A; Residues: 1-52 <SPO>
C; Superfamily: macrophage inflammatory protein
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A; Accession: B60407
         A; Map position:
A; Introns: 19/2;
                                                                                                                                                                     A; Reference number: A; Accession: T20873
                                                                                                                                                                                          submitted to the EMBL Data
A; Reference number: Z19338
                                                                                                                                                                                                                                                           hypothetical protein F14B6.3 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 15-Oct_1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                         В
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C;Superfamily: yeast conserved hypothetical protein
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A; Residues: 1-245 < TOV>
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                                                                                                                                                                                                                           R; White,
                                                                                                                                                                                                                                            C; Accession:
                                                                                                                                                                                                                                                                                                                    T20873
                                                                                                                                                                                                                                                                                                                                   RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL:Z49330; NID:g1008194; PIDN:CAA89346.1; PID:g1008195; MIPS:YJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C; Accession: S56827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Status: preliminary; not compared with conceptual translation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                J. Immunol. 144, 4434-4441, 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Sporn,
                                                                                A; Experimental source:
                                            A;Gene: CESP:F14B6.3
                                                                                                A;Cross-references: EMBL:Z81502;
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Best Local S
Matches 4
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4; Conservative
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                                                                                                                                                                                                                                              T20873
2; 84/3
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100.0%; Pr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           64.3%;
                                                                                                                                                                                                       Library,
                                                                                 F14B6
                                                                                                PIDN:CAB04104.1; GSPDB:GN00019; CESP:F14B6.3
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Pred. No. 44;
4; Mismatches
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Pred. No.
                                                                                                                                                                                                        November
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Query Match Best Local S Matches 5

Similarity 5; Conserv

Conservative

1;

64.3%; 71.4%;

Score 36; DB Pred. No. 65; 1; Mismatches

2

Length 366; Indels

0;

Gaps

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R; Hamilton, T.B.; Barilla, K.C.; Romaniuk, P.J. Nucleic Acids Res. 23, 277-284, 1995
A;Title: High affinity binding sites for the W: A;Reference number: 158315; MUID:95166649
A;Accession: 158315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: EMBL:U06486; NID:g473563; PIDN:AAA62865.1; R;Pelletier, J.; Bruening, W.; Kashtan, C.E.; Mauer, S.M.; Mani Cell 67, 437-447, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Residues: 'SRORPHPGALRNPTACPLPHPPPSLPPTHSPTHPPRAGTAAQAPGPRRLLAAILDFLLLQDPASTCVPEPASOHT A; Cross-references: EMBL: X51630; NID: g37977; PIDN: CAA35956.1; PID: g37978 R; Call, K.M.; Glaser, T.; Ito, C.Y.; Buckler, A.J.; Pelletler, J.; Haber, D.A.; Rose, E. Cell 60, 509-520, 1990 A; Title: Isolation and characterization of a zinc finger polypeptide gene at the human A; Reference number: A34673; MUID: 90150277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: GB:X61631; GB:S99414; NID:g37981; PIDN:CAA43819.1; PID:g825731
A;Note: it is uncertain whether Met-1 is the initiator or whether translation is initiated; A;Note: sequence extracted from NCBI backbone (NCBIN:99414, NCBIN:99422, NCBIN:99479, NCB:NCB: the sequence in GenBank entry HSWTGEEX1, release 113.0, PIDN:CAA43819.1 differs R;Gessler, M.; Poustka, A.; Cavenee, W.; Neve, R.L.; Orkin, S.H.; Bruns, G.A.P. Nature 343, 774-778, 1990
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Genomics 12, 807-813, 1992
A;Title: The genomic organization and expression
A;Reference number: A38080; MUID:92241883
A;Accession: A38080
                                                                                                                                                                                                                                                                                                      A;Molecule type: DNA
A;Residues: 355-365,'H',367-377 <PEL>
A;Cross-references: GB:S61513; NID:9237599; PIDN:AAB20109.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Title: Germline mutations
A; Reference number: I52811;
A; Accession: I52811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cell Growth Differ. 5, 677-(A;Title: Wilms' tumor gene, A;Reference number: I38504; A;Accession: I38504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Title: Alternative splicing and genomic structure of the Wilms A;Reference number: A5641; MOID: 92052142
A;Contents: annotation; alternative splicing
R;Phelan, S.A.; Lindberg, C.; Call, K.M.
                                                         A;Status translated from GB/EMBL/DDBJ
A;Molecure-type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: DNA
A; Residues: 1-18 < PHE>
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A; Ross-references: GB.M30339; NII:9340381; PIDN:AAA36810.1; PID:9340382
R; Haber, D.A.; Sohh, R.L.; Buckler, A.J.; Pelletier, J.; Call, K.M.; Houser, B.A.; Call, K.M.; Houser, C. Natl Acad Sci. U.S.A. 88, 9618-9622, 1991
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                                                                                                                                                                                                                                                                                                                                                                                                     A; Status: translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Reference number: A34673; A; Accession: A34673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Title: Homozygous deletion in Wilms tumours of a zinc-finger gene identified by A;Reference number: S08273; MUID:90158822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Residues:
                                                                                                                                                                                                                                                                                  A; Note: mutant form
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
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'МGНННННННННSGHIEGRHM', 301-364,'F', 366-386,'T', 388-407,411-449
rences: GB:S75264; NID:g896246; PIDN:AAB33443.1; PID:g896247
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  in the Wilms' MUID:92005721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WT1, mRNA is down-regulated MUID:94368704
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Query Match
Best Local Similarity
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R;Buckler, A.J.; Pelletier, J.; Haber, D.A.; Glaser, Mol. Cell. Biol. 11, 1707-1712, 1991
A;Title: Isolation, characterization, and expression A;Reference number: A39692; MUID:91141522
A;Accession: A39692
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A;Map position: 11p13-11p13

A;Introns: 148/I; 189/I; 223/2; 249/2; 266/2; 298/3; 349/I; 379/I; 410/I

A;Note: mRNA transcripts containing both alternatively spliced regions are the most a C;Keywords: alternative splicing; DNA binding; kidney; tumor suppressor; zinc finger F;1-449/Product: Wilms tumor susceptibility protein WTI, splice form I #status predic F;1-449/Product: Wilms tumor susceptibility protein WTI, splice form 3 #status F;1-249,267-449/Product: Wilms tumor susceptibility protein WTI, splice form 3 #status F;1-249,267-407,411-449/Product: Wilms tumor susceptibility protein WTI, splice form 5 #status F;1-249,267-407,411-449/Product: Wilms tumor susceptibility protein WTI, splice form 5 #status F;1-249,267-407,411-449/Product: Wilms tumor susceptibility protein WTI, splice form 5 #status F;1-249,267-407,411-449/Product: Wilms tumor susceptibility protein WTI, splice form 5 #status F;1-249,267-407,411-449/Product: Wilms tumor susceptibility protein WTI, splice form 5 #status Protein WTI, splice form 6 #status Protein WTI, splice form 7 #status Protein WTI, splice form 9 #status Protein WTI, splice 
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                                                                                                                                                                                                                                                                       A; Title: Complete genome sequence of the alkaliphilic A; Reference number: A83650; MUID:20263314 A; Accession: G83933
                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Species: Bacillus
C; Date: 01-Dec-2000
C; Accession: G83933
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A; Residues: 1-449 <BUC>
A; Cross-references: GB:M55512
C; Superfamily: membrane dipeptidase
                                                                                           A;Cross-references: GB:AP001515;
A;Experimental source: strain C
                                                                                                                                                                           A; Molecule type: DNA
A; Residues: 1-310 <STO>
                                                                                                                                                                                                                                                                                                                                                                                        Nucleic Acids Res. 28, 4317-4331, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                     R; Takami, H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                dipeptidase BH2271 [imported] - Bacillus halodurans (strain C-125)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Keywords: alternative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Species: Mus musculus (house mouse)
C; Date: 30-Dec-1991 #sequence_revision
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                                                                                                                                                                                                                                          A; Status: preliminary
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                                                                                                                                          PIDN:BAB05990.1; GSPDB:G
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67.9%; 75.0%;

Score Pred.

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| B85354 | 139721 | 179268 | в69756 | T11471 | T11155 | T11382 | T30574 | T30551 | 157557 | E85079 | EALLB | F84523 | T19873 | E85076 | S64340 |
| hypothetical prote | ORF11 - Agrobacter | traC protein - Esc | ABC transporter (A | H+-transporting AT | cytochrome-c oxida | cytochrome-c oxida | beta-galactosidase | beta-galactosidase | DNA-Binding Protei | hypothetical prote | brown protein - fr | En/Spm-like transp | hypothetical prote | probable transposo | hypothetical prote |

ALIGNMENTS

C;Accession: JC5046
R;Semba, K.; Saito-Ueno, R.; Takayama, G.; Kondo, M.
Gene 175, 167-172, 1996
A;Title: CDNA cloning and its pronephros-specific expression of the Wilms' tumor supp A;Reference number: JC5046; MUID:97074667
A;Contents: testis

N;Alternate names: WT1
C;Species: Xenopus laevis (African clawed frog)
C;Species: Xenopus laevis (African clawed frog)
C;Species: 3-Jan-1997 #sequence_revision 31-Jan-1997 #text_change 31-Jan-1997

Wilms' tumor suppressor protein - African clawed

frog

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C; Genetics:
A; Gene: WT1
C; Keywords:
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A;Molecule type: mRNA
A;Residues: 1-410 <SEM>
A;Cross·references: DDBJ:D82051
C;Comment: This protein is involved in kidney morphogenesis.
C;Genetics:
A;Gene: wtl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wilms' tumor protein WT1 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 10-May-1996
C;Accession: S33926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R:Sharma, P.M.; Yang, X.; Bowman, M.; Roberts, V.; Sukumar, S. Cancer Res. 52, 6407-6412, 1992
A:Title: Molecular cloning of rat Wilms' tumor complementary DNA A;Reference number: S33926; MUID:93046155
                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: mRNA
A; Residues: 1-448 < SHA>
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NAME: Parmelee, Steven W.
REGISTRATION NUMBER: 31,990
REBERRECADOCKET NUMBER: 14137-26-4PC

TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 467-9600
TELEFAN: (415) 543-5043
INFORMATION FOR SEQ ID NO: 52:
SEQUENCE CHARACTERISTICS:
LERGTH: 10 amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: unknown
TOPOLOGY: unkno
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Best Local Similarity
6; Conserve
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Query Match
Best Local 9imilarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                      TYPE: amino acid
STRANDEDNESS: sing
TOPOLOGY: linear
MOLECULE TYPE: pepti
                                                                                                                                                                                              INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                               NAME: Weber, Ellen Lauver
REGISTRATION NUMBER: 32,762
REFERENCE/DOCKET NUMBER: 018623-005030US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)_576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Uses
NUMBER OF SEQUENCES: 1254
CORRESPONDENCE ADDRESS:
                                                                                                                                                           SEQUENCE CHARACTERISTICS
LENGTH: 9 amino acids
                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/926,666
FILING DATE: 07-AUG-1992
APPLICATION NUMBER: US 08/027,746
FILING DATE: 05-MAR-1993
APPLICATION NUMBER: US 08/103,396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Sette, Alessandro APPLICANT: Celis, Esteban TITLE OF INVENTION: HLA Bindi TITLE OF INVENTION: Uses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM: MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS
LENGTH: 9 amino acids
                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Kubo, Ralph T.
APPLICANT: Grey, Howard M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/159,339A FILING DATE: 29-NOV-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acid
STRANDEDNESS: si
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
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                                                                                                                                                                                                                                  (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
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                                                                                                                                                                                                                                                                                                                                                            05-MAR-1993
UMBER: US 08/103,396
06-AUG-1993
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66.78;
 44.8%;
100.0%;
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Pred. No.
 Score 26;
Pred. No.
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DB 3; L
1.5e+05;
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                  Length
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Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: FastSEQ for Windows Version 3.0 SEQ ID NO 10
LENGTH: 8
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Stern, Robert
APPLICANT: Frost, Gregory I.
APPLICANT: CSOKA, Gregory I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 52, Application PC/TUS9502121 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 10, Application US/08916935 Patent No. 6193963
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                                                             PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/935,811

FILING DATE: 26-AUG-1992

PRIOR APPLICATION DATA:

APPLICATION UNUMBER: US 07/874,491

FILING DATE: 27-APR-1992

PRIOR APPLICATION DATA:

TE 07/827 682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Wong, Tim. M.
TITLE OF INVENTION: Human Plasma Hyaluronidase
FILE REFERENCE: 9076-088CIP
CURRENT APPLICATION NUMBER: US/08/916,935
CURRENT FILING DATE: 1997-08-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EARLIER APPLICATION NUMBER: 08/733,360 EARLIER FILING DATE: 1996-10-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                   CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 16-FEB-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 1
                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: CONTITLE OF INVENTION: CT: NUMBER OF SEQUENCES: 1: COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                               MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                    FILING DATE:
                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                             APPLICATION NUMBER: PCT/US95/02121 FILING DATE: 16-FEB-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 FRGPLL 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                    JMBER: US 07/827,682
29-JAN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             43.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPOSITIONS AND METHODS FOR ELICITING CTL IMMUNITY
 US 07/749,568
                                                                                                                                                                                                                    US 08/197,484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 25;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .5e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; TYPE: amino acid
; STRANDEDNESS: Unknown
; TOPOLOGY: Unknown
; MOLECULE TYPE: Peptide
US-08-417-174-119
                                                                                                                                                                                                                                                                                                                                                 US-08-828-712-14
                                                                                                                                                                                                                                                                                                              Sequence 14, Application US/08828712 Patent No. 6015884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                   APPLICANT: Schneck, Jo
APPLICANT: O'HERTIN, S
TITLE OF INVENTION: HE
TITLE OF INVENTION: HE
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 2026
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: Banner & Witcoff, Ltd.
STREET: 1001 G Street, N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCLI
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/88/417,174
                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/08
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08
FILING DATE: 22-APR-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 121792
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                             STREET: LUUI C
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                                                        COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: NEW YORK STATE: NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET:
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345 PARK AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
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                                                                                                                                                                                                                                                                           Schneck, Jonathan P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unknown
                                                                                                                                                                                                                        Soluble Divalent and Multivalent Heterodimeric Analogs of Proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                46.6%;
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THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
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    Mismatches

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Pred. No. 1.5e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 9;
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RESULT 12
US-09-063-276-14
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Best Local Similarity
Thes 6; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; INDIVIDUAL ISOLATE: peptide SL9 US-08-828-712-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 14, Patent No. 6.
                                                                                                                          PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/828,712
FILING DATE: 28-MAR-1997
APPLICATION NUMBER: 60/014,367
FILING DATE: 28-MAR-1996
ATTORNEY/AGENT INFORMATION:
AMMER: VESSE STATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (202)508-9299
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
NFORMATION FOR SEQ ID NO:
                                               NAME: Kagan, Sarah A
REGISTRATION NUMBER: 32141
REFERENCE/DOCKET NUMBER: 01
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-508-9100
                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                SOFTWARE: FastSEQ for CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Schneck, Jonathan APPLICANT: O'Herrin, Sean
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGINAL SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 01
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: peptide HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                             COMPUTER: IBM CONCERNING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 1001 G STREET: Washington
                                  TELEFAX:
                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/0 FILING DATE: 21-APR-1998
                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: FILING DATE: 28-MAI CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                     STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Kagan, Sarah A.
REGISTRATION NUMBER: 32,141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS:
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                                  202-508-9299
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                                                                                                                                                                                                                                                                                               FastSEQ for Windows Version 2.0
                                                                                                                                                                                                                                                                                                                                 IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Banner & Witcoff
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Pred. No. 1.5e+05;
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Gaps

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GENERAL INFORMALIANT:
APPLICANT: Laal, Suman
APPLICANT: Collar-Pazner, Susan
APPLICANT: Belisle, John T
TITLE OF INVENTION: EARLY DETECTION OF MYCOBACTERIAL DISEASE
FILE REFERENCE: NUT-011
CURRENT APPLICATION NUMBER: US/09/001,984C
CURRENT FILING DATE: 1997-12-31
PRIOR APPLICATION NUMBER: 60/034,003
PRIOR APPLICATION NUMBER: 60/034,003
PRIOR FILING DATE: 1996-12-31
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; ORGANISM: Mycobacterium tuberculosis strain H37Rv US-09-001-984C-33
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                                                             SOFTWARE: 1
                                                                                                                                                                                                                                                                             Sequence 33, Application US/09001984C Patent No. 6245331
                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
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Best Local S
                                TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: (510)705-7910
TELEFAX: (510)705-7904
INFORMATION FOR SEQ ID NO: 19:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
TOPOLOGY: line
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Giblin, James A.
REGISTRATION NUMBER: 25772
REFERENCE/DOCKET NUMBER: MS
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 435
PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ZIP: 94701-1986
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM
OPERATING SYSTEM: DOS
SOFTWARE: WOTGPERFECT 6.1
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
nes 5; Conserv
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STATE: Califor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 800 Dwight way
STREET: P. O. Box 1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: FILING DATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            peptide
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Pred. No.
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RESULT 10
US-08-417-174-119
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Sequence 119, Application US/08.417174
Patent No. 5844075
GENERAL INFORMATION:
APPLICANT: KAWAKAMI, YUTAKA; ROSE
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Patent No. 5844075
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Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                Matches
                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: ASCII
CURRENT APPLICATION DATA:
APPLICATION UNUMBER: US/08/417,174
FILING DATE: 05-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                           TELEX: 421792
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                    REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM: MEDIUM TYPE: FLOPPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
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NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG, APPLICANT: STEVEN A.
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COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
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CITY: NEW YORK
                                                                                                                   3 FPGPV 7
                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
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                                                                                                                                                                                                                                                                                                                               LENGTH:
                                                                                                                                                 5 FPGPL 9
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 KAWAKAMI, YUTAKA; ROSENBERG
                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                     Unknown
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                                                                                                                                                                                                                                                                    Peptide
                                                                                                                                                                                                                                                                                                  Unknown
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                                                                                                                                                                                            46.6%;
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80.0%;
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                                                                                                                                                                                              Score 27;
Pred. No.
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Pred. No. 1.5e+05;
1; Mismatches (
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.5e+05;
0;
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                                            Query Match
Best Local S
Matches 5
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Best Local :
                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS: LENGTH: 9 amino acids
                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 32,762
REFERENCE/DOCKET NUMBER: 018623-005030US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
TELEFAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                  FILING DATE: 07-AUG-1992
APPLICATION NUMBER: US 08/027,746
FILING DATE: 05-MAR-1993
APPLICATION NUMBER: US 08/103,396
FILING DATE: 06-AUG-1993
ATTORNEY/AGENT INFORMATION:
NAME: 05-ACT FILEN LAWGET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version
CURRENT APPLICATION DATA:
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                                                                                                                                 TOPOLOGY: 11
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MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 424
PRIOR APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Grey, Howard M.
APPLICANT: Sette, Alessandro
APPLICANT: Celis, Esteban
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                                     51.7%;
Local Similarity 71.4%;
les 5; Conserva++...
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                                                                                                                                                           STRANDEDNESS:
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nes 5; Conserv
                                                                                                                                                                                                                                                                                                                             NAME: Weber, Ellen Lauver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OPERATING SYSTEM:
2 LMPFPGP 8
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o. 6037135
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  94111-3834
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                                                                                                                                                                            amino acid
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linear
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                                   Score 30; DB 3; Lengtu >,
Pred. No. 1.5e+05;
Pred. No. 1.5e+05;
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                                           Gaps
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; STRANDEDNESS:
; TOPOLOGY: line
; MOLECULE TYPE: p
US-08-159-339A-837
; Patent No. 5831003
; GENERAL INFORMATION:
; APPLICANT: Baumbacl
; APPLICANT: Buettnes
; APPLICANT: Dadd, Ct
                                                                                                      RESULT 7
US-08-672-805-19
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                                                                                  Sequence 19,
                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                              Query Match
Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 06-AUG-1993
ATTORNEY/AGENT INFORMATION:
NAME: Weber, Ellen Lauver
REGISTRATION NUMBER: 32,762
REFERENCE/DOCKET NUMBER: 0186
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 424
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: FastSEQ for Windows Version 2.0 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/159,339A
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TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Sette, Alessandro
APPLICANT: Celis, Esteban
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Kubo, Ralph T. APPLICANT: Grey, Howard M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US 07/926,666
FILING DATE: 07-AUG-1992
APPLICATION NUMBER: US 08/027,746
FILING DATE: 05-MAR-1993
APPLICATION NUMBER: US 08/103,396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM CON OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (415) 576-0300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY: USA
ZIP: 94111-3834 \,
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CITY: San Francisco
STATE: CA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE:
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                                                                                                                                                                        3 VMGFPGP
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5; Conserv
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                                                                                    Application US/08672805
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037135
Baumbach, George A.,
Buettner, Joseph A.,
Dadd, Christopher A.,
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06-AUG-1993
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71.4%;
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Pred. No. 25;
1; Mismatches
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US-08-914-853-8
; Sequence 8, Application US/08914853
; Patent No. 5998186
; GENERAL INFORMATION:
; APPLICANT: Lou, Lillian Lien-Li
; APPLICANT: Barnett, Jinmy Wayne
; TITLE OF INVENTION: Cloning and Ex
TITLE OF INVENTION: Synthetase, it
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Best Local Similarity
Them 5; Conserve
                                                                                                                                          RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
NAME: Peries, Rohan
REGISTRATION NUMBER: 35,752
REFERENCE/DOCKET NUMBER: 2806
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)-852-1698
TELEPAX: (415)-496-3529
INFORMATION FOR SED ID NO: 8:
                                                                                                                                                                                                                                                                           Query Match
Best Local (
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/224,917
FILING DATE: 08-APR-1994
CLASSIFICATION: 435
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Barnett, Jimmy Wayne
TITLE OF INVENTION: Cloning and Expression of Human GMP
TITLE OF INVENTION: Synthetase, its use in Screening for Inhibitors of Human
TITLE OF INVENTION: GMP Synthetase and Inhibitors of Human GMP Synthetase
NUMBER OF SEQUENCES: 11
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HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
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CITY: Palo Alto
STATE: Californ
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                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS: sir
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                                                                                                                                                                                                                                                                                                                                                                                                                   linear
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100.0%; Pred. No. 1.5e+05;
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     Expression its use in
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of Human GMP
Screening for
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     for Inhibitors
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PCT-US95-03934A-8
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Best Local Similarity
Thes 5; Conserve
                                                                                                                                                                                                                                                                                                                                    Sequence 8, Application PC/TUS9503934A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Peries, Rohan
REGISTRATION NUMBER: 35,752
REFERENCE/DOCKET NUMBER: 2806
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)-852-1698
TELEFAX: (415)-496-3529
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
                                                                                                   APPLICATION NUMBER: P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE:
HYPOTHETICAL:
FRAGMENT TYPE:
                                                                                                                                                                                                     APPLICANT: Syntex (USA) Inc.

TITLE OF INVENTION: Cloning and Expression of Human GMP
TITLE OF INVENTION: Synthetase, its use in Screening for Inhibitors of Human
TITLE OF INVENTION: GMP Synthetase and Inhibitors of Human GMP Synthetase
NUMBER OF SEQUENCES: 11
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                      CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/914,853
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ATTORNEY/AGENT INFORMATION:
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TITLE OF INVENTION: GM
NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                    SEQUENCE CHARACTERISTICS:
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TOPOLOGY: 1
                                                                                                                                                       COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0,
                             LENGTH: 9 amino acids
TYPE: amino acid
STRANDEDNESS: single
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CITY: Palo Alto
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              ss: single
linear
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                                                                                                                     PCT/US95/03934A
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Pred. No. 1.5e+05;
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                                                                                                                                                          Version #1.25
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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 10
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Perfect score:
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           Score
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           protein search, using sw model
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1: /cgn2_6/ptodata/2,
2: /cgn2_6/ptodata/2,
3: /cgn2_6/ptodata/2,
4: /cgn2_6/ptodata/2,
5: /cgn2_6/ptodata/2,
6: /cgn2_6/ptodata/2,
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Match
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US-08-617-174-111
US-08-417-174-111
US-08-828-712-14
US-09-063-276-14
US-08-916-935-10
PCT-US95-02121-152
PCT-US95-02121-131
US-08-417-174-118
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| US-08-146-028-443 | US-08-269-441A-4 | PCT-US91-09152-9 | US-08-159-339A-1226 | US-08-159-339A-777 | US-09-112-206-225 | US-09-112-206-224 | US-09-112-206-223 | US-08-723-425A-225 | US-08-723-425A-224 | US-08-723-425A-223 | US-09-063-276-13 | US-08-828-712-13 | US-08-146-028-225 | US-08-146-028-224 | US-08-146-028-223 | PCT-US93-11703-73 | US-08-444-818-263 |
| Sequence 443, App | Sequence 4, Appli | Sequence 9, Appli | Sequence 1226, Ap | Sequence 777, App | • | Sequence 224, App | Sequence 223, App | Sequence 225, App | | | | Sequence 13, Appl | Sequence 225, App | Sequence 224, App | _ | Sequence 73, Appl | Sequence 263, App |

ALIGNMENTS

| SEQUENCE CHARACTERISTICS: LENGTH: 9 amino acids TYPE: amino acid STRANDEDNESS: single TOPOLOGY: linear MOLECULE TYPE: peptide HYPOTHETICAL: NO FRAGMENT TYPE: internal US-08-463-620-8 | DATA BER: 8-APR FORMA FORMA ROHAN INFO 5)-85 -496- ID N | ADDRESSEE: STREET: 3401 Hillview Avenue CITY: Palo Alto STATE: California COUNTRY: USA ZIP: 94304 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/463,62 FILING DATE: CLASSIFICATION: 415 | RESULT 1 US-08-463-620-8 ; Sequence 8, Application US/08463620 ; Patent No. 5789216 ; APPLICANT: Barnett, Jimmy Wayne TITLE OF INVENTION: Cloning and TITLE OF INVENTION: Synthetase, TITLE OF INVENTION: GMP Synthet NUMBER OF SEQUENCE: 11 ; CORRESPONDENCE ADDRESS: |
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| | : 105 08/224,917 -1994 TION: 35,752 BER: 28060 RMATION: 2-1698 3529 0: 8: | . (USA) INCview Avenue RM: RM: Compatible Compatible PC-DOS/MS-DOS P | US/08463620 ian Lien-Li Jimmy Wayne Cloning and Expression of Human GMP Synthetase, its use in Screening for Inhibitors of Human GMP Synthetase and Inhibitors of Human GMP Synthetase |

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PRIOR FILING DATE: 2000-05-23
PRIOR APPLICATION NUMBER: 08/723,425
PRIOR FILING DATE: 1996-09-30
PRIOR APPLICATION NUMBER: 09/146,028
PRIOR FILING DATE: 1993-11-22
PRIOR APPLICATION NUMBER: PCT/EP93/00517
PRIOR FILING DATE: 1993-03-08
PRIOR APPLICATION NUMBER: EP 92400598.6
PRIOR APPLICATION NUMBER: EP 92400598.6
PRIOR FILING DATE: 1992-03-06
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                      SOFTWHEE: PatentIn Ver. 2.1
SEQ ID NO 212
LENGTH: 9
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SEQ ID NO 211
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TITLE OF INVENTION: PROCESS FOR THE DETERMINATION OF PEPTIDES CORRESPONDING
TITLE OF INVENTION: TO IMMUNOLOGICALLY IMPORTANT EPITOPES AND THEIR USE IN
TITLE OF INVENTION: A PROCESS FOR DETERMINATION OF ANTIHODIES OF
TITLE OF INVENTION: BIOTINVLATED PEPTIDES CORRESPONDING TO IMMUNOLOGICALLY IMPORTANT
TITLE OF INVENTION: EPITOPES A PROCESS FOR PREPARING THEM AND COMPOSITIONS
TITLE OF INVENTION: CONTAINING THEM
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TITLE OF INVENTION: PROCESS FOR THE DETERMINATION OF PEPTIDES CORRESPONDING
TITLE OF INVENTION: TO IMMUNOLOGICALLY IMPORTANT EPITOPES AND THEIR USE IN
TITLE OF INVENTION: A PROCESS FOR DETERMINATION OF ANTIBODIES OF
TITLE OF INVENTION: EPITOPES, A PROCESS FOR PREPARING THEM AND COMPOSITIONS
TITLE OF INVENTION: CONTAINING THEM
                                                                                                               NUMBER OF SEQ ID NOS: 600
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PRIOR FILING DATE: 1992-03-06
NUMBER OF SEQ ID NOS: 600
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PRIOR FILING DATE: 1993-11-2
PRIOR APPLICATION NUMBER: PCT/EP93/00517
PRIOR FILING DATE: 1993-03-08
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CURRENT FILING DATE: 2001-02-23
PRIOR APPLICATION NUMBER: 09/576,824
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CURRENT FILING DATE: 2001-02-23
PRIOR APPLICATION NUMBER: 09/576,824
PRIOR FILING DATE: 2000-05-23
PRIOR APPLICATION NUMBER: 08/723,425
PRIOR FILING DATE: 1996-09-30
PRIOR FILING DATE: 1996-09-30
PRIOR APPLICATION NUMBER: 09/146,028
PRIOR APPLICATION NUMBER: 09/146,028
PRIOR APPLICATION NUMBER: PCT/EP93/00517
PRIOR FILING DATE: 1993-03-08
PRIOR FILING DATE: 1993-03-08
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LENGTH: 9
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TITLE OF INVENTION: TO IMMUNOLOGICALLY IMPORTANT EPITOPES AND THEIR USE IN
TITLE OF INVENTION: A PROCESS FOR DETERMINATION OF ANTHODIES OF
TITLE OF INVENTION: BIOTINYLATED PEPTIDES CORRESPONDING TO IMMUNOLOGICALLY IMPORT
TITLE OF INVENTION: CONTAINING THEM
TITLE OF INVENTION: CONTAINING THEM
FILE REFERENCE: 2752-17
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US-09-790-497A-493
US-09-790-497A-493
Sequence 493, Application US/09790497A
; GENERAL INFORMATION:
APPLICANT: De Leys, Robert
TITLE OF INVENTION: PROCESS FOR THE DETERMINATION OF PEPTIDES CORRESPONDING
TITLE OF INVENTION: TO IMMUNOLOGICALLY IMPORTANT EPITOPES AND THEIR USE IN
TITLE OF INVENTION: A PROCESS FOR DETERMINATION OF ANTIBODIES OF
TITLE OF INVENTION: BIOTINYLATED PEPTIDES CORRESPONDING TO IMMUNOLOGICALLY IMPORTANT
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                                                                                                                                                                                                                RESULT 11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Hepatitis C virus US-09-790-497A-492
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/09/790,497A
CURRENT FILING DATE: 2001-02-23
PRIOR APPLICATION NUMBER: 09/776,824
PRIOR FILING DATE: 2000-05-23
PRIOR APPLICATION NUMBER: 08/723,425
PRIOR FILING DATE: 1996-09-30
PRIOR APPLICATION NUMBER: 09/146,028
PRIOR APPLICATION NUMBER: 09/146,028
PRIOR APPLICATION NUMBER: PC/TEP93/00517
PRIOR FILING DATE: 1993-03-08
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PRIOR FILING DATE: 1992-03-06
NUMBER OF SEQ ID NOS: 600
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 492
LENGTH: 9
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PRIOR FILING DATE: 1992-03-06
NUMBER OF SEQ ID NOS: 600
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 213
                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 4; Conserv
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Best Local Similarity 55.6
Matches 5; Conservative
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PRIOR FILING DATE: 1993-03-08
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2 YLLPRRGP 9
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Pred. No. 2.9e+05;
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Pred. No. 2.9e+05;
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RESULT 12
US-09-790-497A-494
; Sequence 494, Application US/09790497A
; GENERAL INFORMATION:
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                                                                                                                                                              ; ORGANISM: Hepatitis C virus US-09-790-497A-494
                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/790,497A
CURRENT FILING DATE: 2001-02-23
PRIOR APPLICATION NUMBER: 09/576,824
PRIOR FILING DATE: 2000-05-23
PRIOR FILING DATE: 2000-05-23
PRIOR PILING DATE: 1996-09-30
PRIOR APPLICATION NUMBER: 09/146,028
PRIOR APPLICATION NUMBER: 09/146,028
PRIOR FILING DATE: 1993-11-22
PRIOR APPLICATION NUMBER: PCT/EP93/00517
PRIOR APPLICATION NUMBER: EP 92400598.6
PRIOR APPLICATION NUMBER: EP 92400598.6
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CURRENT FILING DATE: 2001-02-23
PRIOR APPLICATION NUMBER: 09/576,824
PRIOR FILING DATE: 2000-05-23
PRIOR APPLICATION NUMBER: 08/723,425
PRIOR APPLICATION NUMBER: 08/723,425
PRIOR APPLICATION NUMBER: 09/146,028
PRIOR APPLICATION NUMBER: 09/146,028
PRIOR FILING DATE: 1993-01-22
PRIOR PILING DATE: 1993-03-08
PRIOR PILING DATE: 1992-03-06
NUMBER OF SEQ ID NOS: 600
SOFTWARE: Patentin Ver: 2.1
                                                Query Match
Best Local Similarity
Matches 5; Conserv
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TITLE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
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LENGTH: 9
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Best Local Similarity
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NUMBER OF SEQ ID NOS: 600
SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: De Leys, Robert
TITLE OF INVENTION: PROCESS FOR THE DETERMINATION OF PEPTIDES CORRESPONDING
TITLE OF INVENTION: TO IMMUNOLOGICALLY IMPORTANT EPITOPES AND THEIR USE IN
TITLE OF INVENTION: A PROCESS FOR DETERMINATION OF ANTIBODIES OF
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      LMPFPGPLL 10
                                                   Conservative
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55.6%;
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                                                                     Score 23; DB 5;
Pred. No. 2.9e+05;
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Pred. No. 2.9e+05;
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APPLICANT: De Leys,
FITTLE OF INVENTION:
FITLE OF INVENTION:
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                                                                                                                                                                           PRIOR APPLICATION NUMBER: 09/576,824
PRIOR FILING DATE: 2000-05-23
PRIOR PPLICATION NUMBER: 08/723,425
PRIOR FILING DATE: 1996-99-30
PRIOR APPLICATION NUMBER: 09/146,028
PRIOR FILING DATE: 1993-11-22
PRIOR APPLICATION NUMBER: PCT/EP93/00517
PRIOR FILING DATE: 1993-03-08
PRIOR FILING DATE: 1993-03-08
                                                                             SOFTWARE: PatentIn
SEQ ID NO 211
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Sequence 211, App
ORGANISM: Hepatitis
-09-790-497A-211
                                                                                                                      PRIOR FILING DATE: 1992-03-06 NUMBER OF SEQ ID NOS: 600
                                                                                                                                       PRIOR APPLICATION NUMBER: EP 92400598.6 PRIOR FILING DATE: 1992-03-06
                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/790,497A CURRENT FILING DATE: 2001-02-23
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                                        TYPE: PRT
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APPLICATION NUMBER: US (
FILING DATE: 1999-03-23
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APPLICATION NUMBER: US 60/124,142
FILING DATE: 1999-03-12
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Robert
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Pred. No. 2.9e+05;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/790,497A
CURRENT FILING DATE: 2001-02-23
PRIOR APPLICATION NUMBER: 09/576,824
PRIOR FILING DATE: 2000-05-23
PRIOR APPLICATION NUMBER: 08/723,425
PRIOR FILING DATE: 1996-09-30
PRIOR APPLICATION NUMBER: 09/146,028
PRIOR FILING DATE: 1993-11-22
PRIOR APPLICATION NUMBER: PCT/EP93/00517
PRIOR APPLICATION NUMBER: PCT/EP93/00517
PRIOR APPLICATION NUMBER: EP 92400598.6
PRIOR APPLICATION NUMBER: EP 92400598.6
PRIOR FILING DATE: 1992-03-06
PRIOR FILING DATE: 1992-03-06
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SEQ ID NO 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 212, Application Us
GENERAL INFORMATION:
APPLICANT: De Leys, Robert
TITLE OF INVENTION: PROCESS FOR THE DETERMINATION OF PEPTIDES CORRESPONDING TITLE OF INVENTION: TO IMMUNOLOGICALLY IMPORTANT EPITOPES AND THEIR USE IN TITLE OF INVENTION: A PROCESS FOR ETERMINATION OF ANTIBODIES OF INVENTION: BIOTINYLATED PEPTIDES CORRESPONDING TO IMMUNOLOGICALLY IMPORT TITLE OF INVENTION: CONTAINING THEM FILL REFERENCE: 2752-16

CURRENT APPLICATION NUMBER: US/09/790,497A

CURRENT APPLICATION NUMBER: 09/576,824

PRIOR FILING DATE: 1996-09-30

PRIOR FILING DATE: 1993-11-22
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Best Local Similarity
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: PROCESS FOR THE DETERMINATION OF PEPTIDES CORRESPONDITIONS TO IMMUNOLOGICALLY IMPORTANT EPITOPES AND THEIR USE TITLE OF INVENTION: A PROCESS FOR DETERMINATION OF ANTIHODIES OF TITLE OF INVENTION: BIOTINYLATED PEPTIDES CORRESPONDING TO IMMUNOLOGICAL TITLE OF INVENTION: EPITOPES, A PROCESS FOR PREPARING THEM AND COMPOSITIONING OF INVENTION: CONTAINING THEM
                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: De Leys,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 9
TYPE: PRT
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Pred. No.
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Pred. No.
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PRIOR APPLICATION NUMBER: PCT/USO0/06042
PRIOR APPLICATION NUMBER: PCT/USO0/06014
PRIOR APPLICATION NUMBER: PCT/USO0/06014
PRIOR APPLICATION NUMBER: PCT/USO0/06049
PRIOR APPLICATION NUMBER: PCT/USO0/06030
PRIOR APPLICATION NUMBER: PCT/USO0/06030
PRIOR APPLICATION NUMBER: PCT/USO0/06030
PRIOR PILING DATE: 2000-03-16
PRIOR APPLICATION NUMBER: PCT/USO0/06030
PRIOR PILING DATE: 2000-03-16
PRIOR PRIOR APPLICATION NUMBER: PCT/USO0/06030
PRIOR PILING DATE: 2000-03-16
PRIOR PRIOR APPLICATION NUMBER: PCT/USO0/06030
PRIOR PILING DATE: 2000-03-16
PRIOR PRIOR APPLICATION NUMBER: PCT/USO0/06030
PRIOR PILING DATE: 2000-03-16
PRIOR PRIOR APPLICATION NUMBER: PCT/USO0/06030
PRIOR PRIOR APPLICATION NUMBER: PCT/USO0/06030
PRIOR PRIOR APPLICATION NUMBER: PCT/USO0/06030
PRIOR PRIOR APPLICATION NUMBER: PCT/USO0/07505
PRIOR PRIOR APPLICATION NUMBER: PCT/USO0/07505
PRIOR PRIOR APPLICATION NUMBER: PCT/USO0/07505
PRIOR PRIOR PRIOR DATE: 2000-03-3
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| NOMBER. O | : 1999-03-1 | :: 1999-12-0 | NUMBER: US | NUMBER: US | NUMBER: US: 1999-12-0 | NUMBER: US: 1999-03-1 | NUMBER: US: 1999-12-0: | NUMBER: US | : 1999-11-2 | : 1999-03-1 | NUMBER: US | NUMBER: US | NUMBER: US: 1999-03-1 | NUMBER: PC : 2001-04-2 | : 2000-09-2 | : 2000-09-2 | . 2000-09-2 | NUMBER: PC | NUMBER: PC | NUMBER: PC | | : 2000-06-0 | : 2000-06-0 | : 2000-06-0 | : 2000-06-0 | : 2000-06-0 | :. 2000-06-0 | NUMBER: PC | NUMBER: PC | NUMBER: PC | NUMBER: PC | NUMBER: PC | NUMBER: PC | NUMBER: PC | NUMBER: PC: 2000-04-0 | 2000-04-0 | .: 2000-04-0 | NUMBER: PC | NUMBER: PC | NUMBER: PC | : 2000-04-0 |
| 0,100,00 | 0/169 66 | 3 60/124.143 | 60/168,622 | 60/124,096 | 60/168,661 3 | 60/124,099 2 | 60/168,654 3 | 0/124,14 | | 2 60/166 989 | 60/124,093 | 60/167,061 | 60/124,146 2 | T/US01/13318 7 | /0000/2000 | /IIS00/263 | 6 T/US00/2632 | T/US00/26324 | Ţ/US00/2637 | T/US00/26376 | T/US00/14964 1 | 00/1497 | /0500/1492 | /0500/1313 | /TOO /1513 | /000/1493 | /0500/1493 | 1 T/US00/15135 | 1 T/US00/14963 | T/US00/14926 | ī/us00/15136 | T/US00/09069 | ī/us00/09071 6 | T/US00/08980 6 | /us00/089 | 0,000 | 711500 70908 | ь т/us00/09066 | Ţ/us00/09067 | T/US00/08983 6 | |

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; OTHER INFORMATION: peptides screened from a phage display random ; OTHER INFORMATION: peptide library US-09-8322723-66
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Best Local Similarity
Watches 5; Conserva
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; OTHER INFORMATION: Corresponds to a dog MCH receptor region
PCT-US01-22458-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: 2001-07-17;
PRIOR APPLICATION NUMBER: 60/219,669
PRIOR FILING DATE: 2000-07-21
NUMBER OF SEQ ID NOS: 18
SOFTMARE: FastSEQ for Windows Version 4.0
SEQ ID NO 10
LENCTH: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PCT-US01-22458-10
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APPLICANT: Merck & Co.,
                                                                                                                                                                   SOFTWARE: FastSEQ for Windows Version SEQ ID NO 66
   Query Match
                                                                                                                                                                                                                                                                                                                                                                                          Sequence 66, Application US/09832723 GENERAL INFORMATION:
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Best Local :
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CURRENT FILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: US 60/197,259
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TITLE OF INVENTION: DOG MELANIN-CONCENTRATING HORMONE
TITLE OF INVENTION: RECEPTOR
                                                                                                                                                                                                   PRIOR FILING DATE: 2000-04-14
NUMBER OF SEQ ID NOS: 117
                                                                                                                                                                                                                                                                                      APPLICANT: Tijerina, Pilar
TITLE OF INVENTION: METHODS FOR SELECTIVE TARGETING
FILE REFERENCE: GC617-2
                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Estell, APPLICANT: Chen, Y
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ORGANISM: Artificial Sequence
                                                                                                      FEATURE:
                                                                                                                 ORGANISM: Artificial Sequence
                                                                                                                                      TYPE: PRT
                                                                                                                                                     CENGTH:
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Pred. No.
 Score
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     24;
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2e+02;
   DВ
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Length
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                                                         CURRENT APPLICATION NUMBER: US/09/950,083
CURRENT FILING DATE: 2001-09-12
PRIOR APPLICATION NUMBER: 60/278,650
PRIOR FILING DATE: 2001-03-27
PRIOR FILING DATE: 2001-04-12
PRIOR APPLICATION NUMBER: PCT/US01/11988
PRIOR FILING DATE: 2001-04-12
PRIOR PPLICATION NUMBER: PCT/US00/06043
PRIOR APPLICATION NUMBER: PCT/US00/06043
PRIOR FILING DATE: 2000-03-09
PRIOR APPLICATION NUMBER: PCT/US00/06012
PRIOR APPLICATION NUMBER: PCT/US00/06012
PRIOR APPLICATION NUMBER: PCT/US00/06012
PRIOR APPLICATION NUMBER: PCT/US00/06012
PRIOR APPLICATION NUMBER: PCT/US00/06058
PRIOR FILING DATE: 2000-03-09
PRIOR APPLICATION NUMBER: PCT/US00/06058
PRIOR FILING DATE: 2000-03-09
PRIOR APPLICATION NUMBER: PCT/US00/06058
PRIOR FILING DATE: 2000-03-09
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GENERAL INFORMATION:
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CURRENT FILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: US 60/197,259
PRIOR FILING DATE: 2000-04-14
NUMBER OF SEQ ID NOS: 117
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APPLICANT: Tijerina, Pilar
TITLE OF INVENTION: METHODS FOR SELECTIVE TARGETING
FILE REFERENCE: GC617-2
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                                                                                                                                                                                                                                                                                                                                                                                                  FILE REFERENCE: PS805
                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: Human Secreted Proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Rosen, et. al
                                             PRIOR
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LOCATION: (1)...(7)
OTHER INFORMATION: Xaa
NAME/KEY: VARIANT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
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                   APPLICATION NUMBER: PCT/US00/06044 FILING DATE: 2000-03-09
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100.0%; Pred. No. 2.9e+05;
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1: /cgn2_6/ptodata/2/paa/PCT_NEW_COMB.pep:*

2: /cgn2_6/ptodata/2/paa/US06_NEW_COMB.pep:*

3: /cgn2_6/ptodata/2/paa/US07_NEW_COMB.pep:*

4: /cgn2_6/ptodata/2/paa/US07_NEW_COMB.pep:*

5: /cgn2_6/ptodata/2/paa/US09_NEW_COMB.pep:*

6: /cgn2_6/ptodata/2/paa/US09_NEW_COMB.pep:*
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Copyright (c) 1993 - 2000 Comp
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                                 US-09-719-554-91
US-09-719-554-109
PCT-USC1-22458-10
US-09-832-723-66
US-09-832-723-70
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US-09-790-497A-213
US-09-790-497A-493
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Sequence 91, Appl Sequence 109, Appl Sequence 10, Appl Sequence 10, Appl Sequence 4410, Appl Sequence 211, Appl Sequence 212, Appl Sequence 213, Appl Sequence 213, Appl Sequence 214, Appl Sequence 211, Appl Sequence 212, Appl Sequence 213, Appl Sequence 494, Appl Sequence 497, Appl Sequence 2107, Appl Sequence 2110, Appl Sequence 21497, Appl Sequence 2177, Appl Sequence 2187, Appl Sequence 2187, Appl Sequence 2187, Appl Sequence 2188, Appl Sequence 2748, Appl Se
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; NUMBER OF SEQ ID NOS: 122
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 91
; LENGTH: 10
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-719-554-91
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US-09-719-554-91
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: ALLIEL, Patrick
APPLICANT: RIEGER, François
APPLICANT: RIEGER, François
TITLE OF INVENTION: NUCLEIC ACID SEQUENCE AND DEDUCED PROTEIN SEQUENCE FAMILY WITH
TITLE OF INVENTION: ENDOGENOUS RETROVIRAL MOTIFS
FILE REFERENCE: 200936US0PCT
CURRENT APPLICATION NUMBER: US/09/719,554
CURRENT APPLICATION NUMBER: PCTFR99/01513
PRIOR APPLICATION NUMBER: PCTFR99/01513
PRIOR FILING DATE: 1999-06-25
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| -09-633-364 -09-633-364 -09-633-364 -09-633-364 -09-633-364 -09-633-364 -09-633-364 -09-633-364 -09-633-364 -09-633-364 -09-633-364 | 37.9 8 5 US-09-633-364 37.9 9 5 US-09-633-364 | 45 | 44 | 4. | 2 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | ω L | 30 | 29 | 0 |
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| 9 8 5 US-09-633-364 9 9 5 US-09-633-364 | . 9 8 5 US-09-633-364-3287 Sequences | 22 | 2.2 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 44 |
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| US-09-633-364 | US-09-633-364-3288 US-09-633-364-3987 US-09-633-364-3988 US-09-633-364-4418 US-09-633-364-4418 US-09-633-364-4419 US-09-633-364-5378 US-09-633-364-5379 US-09-633-364-5379 US-09-633-364-10 US-09-633-364-10 US-09-633-364-1876 US-09-633-364-1876 US-09-633-364-2499 US-09-633-364-2499 US-09-633-364-2499 US-09-633-364-2499 US-09-633-364-2499 US-09-633-364-2499 US-09-633-364-2499 US-09-633-364-2499 US-09-633-364-2499 US-09-633-364-3007 US-09-633-364-3007 US-09-633-364-3008 US-09-633-364-3009 | 9 | v | y c | 9 | 9 | 9 | 9 | 9 | 9 | 8 | 8 | 8 | 00 | œ | œ | 8 | 8 | 0 |
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| | sequence | US-09-633-364-6544 | -09-633-364 | -09-633-364 | -633-364 | -633-36 | -633 | US-09-633-364-1878 | US-09-633-364-1876 | PCT-US00-08879A-24 | US-09-832-355A-10 | US-09-633-364-5379 | -633-364 | -633-364 | -633-364 | -633-364 | -09-633-364 | -09-633-364 | 05-09-033-304-3203 |

ALIGNMENTS

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US-09-719-554-109; Sequence 109, Application US/09719554; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
"hes 5; Conserv
APPLICANT: ALLIEL, Patrick
APPLICANT: PERIN, Jean-Pierre
APPLICANT: PERIN, Jean-Pierre
APPLICANT: RIEGER, Francois
TITLE OF INVENTION: NUCLEIC ACID SEQUENCE AND DEDUCED PROTEIN SEQUENCE FAMILY WITH
TITLE OF INVENTION: ENDOCENOUS RETROVIRAL MOTIFS
FILE REFERENCE: 200936USOPCT
CURRENT APPLICATION NUMBER: US/09/719,554
CURRENT FILING DATE: 2001-12-26
PRIOR APPLICATION NUMBER: PCT/FR99/01513
PRIOR APPLICATION NUMBER: PCT/FR99/01513
PRIOR FILING DATE: 1999-06-25
NUMBER OF SEQ ID NOS: 122
SOFTWARE: Patentin version 3.1
SEQ ID NO 109
LENGTH: 10
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71.4%;
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Pred. No. 2e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1; Indels
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Sequence 196. Application US/08073205
GENERAL INFORMATION:
APPLICANT: GERY, Howard M.
APPLICANT: SITTE, Alessandro
APPLICANT: SINEY, John
APPLICANT: KAST, Wibe M.
TITLE OF INVENTION: HLA-A2.1 BINDING PEPTIDES AND THEIR USES
NUMBER OF SEQUENCES: 696
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend Khourie and Crew
STREET: Steuart Street Tower, One Market Plaza
CITY: San Francisco
STATE: California
COLUMNES. California
                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:

LENGTH: 9 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: peptide
US-08-073-205-196
Search completed: October 23, 2001, 13:36:36 Job time: 168 sec
                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/073,205
EILING DATE: 04-JUN-1993
CLASSIFICATION S14
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/027,146
FILING DATE: 05-MAR-1993
ATTORNEY_AGENT INFORMATION:
NAME: Bastian, Kevin L.
REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 14137-58-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 543-9600
TELEFAX: (415) 543-9643
INFORMATION FOR SEQ ID NO: 196:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
US-08-073-205-196
                                                                                                                                                                                  Query Match 53.4
Best Local Similarity 83.3
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                              4 PFPGPL 9
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                                                                                                                                                                                                      53.4%;
                                                                                                                                                                                  Score 31; DB Pred. No. 2.6e.
                                                                                                                                                                                       0;
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2.6e+06;
                                                                                                                                                                                  1; Indels
                                                                                                                                                                                                                         Length 9;
                                                                                                                                                                                  0;
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OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:

MÉDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS

APPLICATION NUMBER:

US/08/461,788

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Query Match
Best Local Similarity
"-+-hes 5; Conserva
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MOLECULE TYPE:
HYPOTHETICAL: N
FRAGMENT TYPE:
IS-08-461-788-8
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GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REGISTRATION NUMBER: 35,752
REFERENCE/DOCKET NUMBER: 28
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)-852-1698
TELEFAX: (415)-496-3529
INFORMATION FOR SEQ ID NO: 8:
                                                                                                                                                              MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/464,505
                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Lou, Lillian Lien-Li
APPLICANT: Barnett, Jimmy Wayne
TITLE OF INVENTION: Cloning and
TITLE OF INVENTION: Synthetase,
TITLE OF INVENTION: Human
TITLE OF INVENTION: GMP Syntheta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/224,917
FILING DATE: 08-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: Peries, Rohan
             PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/224,917
FILING DATE: 08-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: Peries, Rohan
REGISTRATION NUMBER: 35,752
                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS
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                                                                                                                                                                                                                                                                                                                                              CITY: Palo Alto
STATE: Californi
REFERENCE/DOCKET NUMBER: 28060
                                                                                                                                CLASSIFICATION:
                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                          COUNTRY:
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TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION:
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                                                                                                                                                                                                                                                                                                                                          California
                                                                                                                                                                                                                                                                                                                                                                                  E: Syntex (USA) Inc. 3401 Hillview Avenue
                                                                                                                                                                                                                                                                                                                            USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cloning and Expression of Human GMP
Synthetase, its use in Screening for Inhibitors of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  56.9%; Score 33; DB 8; L
100.0%; Pred. No. 2.6e+06;
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US-08-027-146-196
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                               Query Match
Best Local Similarity
Matches 5; Conserv
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Best Local Similarity 100
Matches 5; Conservative
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                                                                                                                                                                                    TELEFAX: (415) 543-5043 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE:
HYPOTHETICAL: I
FRAGMENT TYPE:
                                                                                                                                                                                                                             REGISTRATION NUMBER: 34,774
REFERENCE/DOCKET NUMBER: 14:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 543-9600
                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                NAME: Bastian, Kevin L.
                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELECOMMUNICATION INFORMATION: TELEPHONE: (415)-852-1698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: SETTE, Alessandro
APPLICANT: SIDNEY, John
APPLICANT: KAST, W. M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: FILING DATE: 199303 CLASSIFICATION: 424
                                                                                                                                           TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: Steuart Stre
CITY: San Francisco
                                                                                                                                                                      LENGTH:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH:
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 4 PFPGPL
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Bastian, Kevin L.
Bastian, Kevin L.
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                                  Conservative
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                                               53.4%;
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                                                                                                                                                                                                                                                                                                                                                           US/08/027,146
                                                                                                                                                                                                                                                                  14137-58
                                  0;
                                            Score 31; DB 4;
Pred. No. 2.6e+06;
                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 8; L
                                                             Length 9;
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                                  Indels
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                                 Gaps
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RESULT 18. US-08-461-489-8
(S-98-461-489-8); Sequence 8, Application US/08461489); GENERAL INFORMATION:
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; FRAGMENT TYPE:
US-08-461-462-8
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US-08-461-462-8
                                                                                                                                                                               Matches
                                                                                                                                                                                          Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (415)-496-3529 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Peries, Rohan
REGISTACION NUMBER: 35,752
REFERENCE/DOCKET NUMBER: 28
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)-852-1698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 370 CITY: Palo Alto
CTATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 08/224,917
FILING DATE: 08-APR-1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                          MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOETWARR: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Lou, Lillian Lien-Li
APPLICANT: Barnett, Jimmy Wayne
TITLE OF INVENTION: Cloning and
TITLE OF INVENTION: Synthetase,
TITLE OF INVENTION: Human
TITLE OF INVENTION: GMP Syntheta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity 100.0%; Pred. No. res 5; Conservative . ....
                                                                                                                                                                                                                                                                                                                                    LENGTH: 9 amino acids
TYPE: amino acid
STRANGENESS: single
                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                                                               1 PFPGP 5
                                                                                                                                               4 PFPGP 8
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                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                         linear
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                                                                                                                                                                                                                                                                                                    peptide
                                                                                                                                                                                                                                                                           internal
                                                                                                                                                                      56.9%; ~~
100.0%; Pr
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                                                                                                                                                                                            Score 33;
; Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 17; 1
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                                                                                                                                                                                                          Length 9;
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                                                                                                                                                                           0,
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; FRAGMENT TYPE:
US-08-461-489-8
                                                                                                                                                                                             Sequence 8, Application US/08461788
GENERAL INFORMATION:
APPLICANT: Lou, Lillian Lien-Li
APPLICANT: Barnett, Jimmy Wayne
                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity
Matches 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: PETIES, NUMBER: 35,752
REGISTRATION NUMBER: 2806/
REFERENCE/DOCKET NUMBER: 2806/
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415)-852-1698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (415)-496-3529 INFORMATION FOR SEQ ID NO: 8:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Lou, Lill APPLICANT: Barnett, TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/461,489
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                       NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                      TITLE OF INVENTION:
                                                                                                                                                                      TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 08-APR-1994
ATTORNEY/AGENT INFORMATION:
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                    ADDRESSEE: Syn
                COUNTRY: U
                                            CITY: Palo Alto
STATE: Californ:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ZIP: 94304
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                            4 PFPGP 8
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| PFPGP 5
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                                            California
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3401 Hillview Avenue
                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                         Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lou, Lillian Lien-Li
                                                                                        Syntex (USA) Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
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NO
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                                                                           Hillview Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                single
                                                                                                                                                                                     Cloning and
                                                                                                                                      GMP Synthetase and Inhibitors of Human GMP Synthetase
                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
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                                                                                                                                                                      Synthetase,
                                                                                                                                                                                                                                                                                                                                                                                                                       56.9%;
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 Mismatches

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                                                                                                                                                                                                                                                                                                                                                                                                                       Length 9;
                                                                                                                                                                     for Inhibitors of
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TELECOMMUNICATION INFORMATION: TELEPHONE: 202-628-5197

NAME: Cooper, Iver | REGISTRATION NUMBER: REFERENCE/DOCKET NUMBER:

28,005

ANATHAN1

NAME:

TELEPHONE: 202-737-3528

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US-09-428-692-5
; Sequence 5, Application US/09428692
; GENERAL INFORMATION:
APPLICANT: Carr et al.
; TITLE OF INVENTION: NOVEL CHIMERIC ANALGESIC PEPTIDES
; FILE REFERENCE: 18475-016
                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
~~+~hes 5; Conserva
; OTHER INFORMATION: Description of Artificial Sequence: US-09-428-692-5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: HUMAN US-09-317-702-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          us-09-317-702-1
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                                                                          CURRENT APPLICATION NUMBER: US/09/428,692
CURRENT FILING DATE: 1999-10-28
NUMBER OF SEQ ID NOS: 43
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 5
LENGTH: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1, Application US/09317702A
GENERAL INFORMATION:
APPLICANT: Ray, Michelle
APPLICANT: Venturint, Al
APPLICANT: Daiss, Jack
APPLICANT: Hinchman, Carolyn
TITLE OF INVENTION: DIAGNOSTIC MARKERS FOR HUMAN DISORDERS
FILE REFERENCE: CDS195 Jim Harrington
CURRENT APPLICATION NUMBER: US/09/317,702A
CURRENT FILING DATE: 1999-05-24
NUMBER OF SEQ ID NOS: 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 1
LENGTH: 7
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Best Local
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INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                   TYPE: PRT
ORGANISM: Artificial Sequence
                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
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| PFPGPI 7
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| PFPGPI 7
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83.3%;
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                                                                                                                                                                                                                                                                                                                                                                                                              .6e+06;
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               recombinant
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APPLICANT: Ray, Michelle
APPLICANT: Venturini, Al
APPLICANT: Daiss, Jack
APPLICANT: Daiss, Jack
APPLICANT: Hinchman, Carolyn
TITLE OF INVENTION: DIAGNOSTIC MARKERS FOR HUMAN DISORDERS
FILE REFERENCE: CDS195 Jim Harrington
CURRENT APPLICATION NUMBER: US/09/317,702A
CURRENT APPLICATION NUMBER: US/09/317,702A
CURRENT FILING DATE: 1999-05-24
NUMBER OF SEQ ID NOS: 43
SOFTMARE: Patentin Ver. 2.1
SEQ ID NO 2
LENGTH: 6
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; OTHER INFORMATION: Description of Artificial Sequence: Synthetic ; OTHER INFORMATION: Peptide US-09-657-276-748
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US-09-317-702-2
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US-09-657-276-748
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; ORGANISM: HUMAN
US-09-317-702-2
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CURRENT FILING DATE: 2000-09-07
PRIOR APPLICATION NUMBER: 60/134,406
PRIOR FILING DATE: 1999-05-17
PRIOR APPLICATION NUMBER: 60/153,406
PRIOR FILING DATE: 1999-09-10
PRIOR FILING DATE: 1999-09-10
PRIOR APPLICATION NUMBER: 60/159,783
PRIOR FILING DATE: 1999-10-18
NUMBER OF SEQ ID NOS: 1617
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                  Sequence 2, Application US/09317702A GENERAL INFORMATION:
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Best Local Similarity
Matches 5; Conserv
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SEQ ID NO 748
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Best Local Similarity
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APPLICANT:
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TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                              2 PFPGPI
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Holmes, Darren
Thibaudeau, Karen
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Ezrin, Alan
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83.3%;
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83.3%;
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Pred. No. 2
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Pred. No. 2.6e+06;
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2.6e+06;
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US-09-317-702-6

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GENERAL INFORMATION:

APPLICANT: Ray, Michelle

APPLICANT: Venturini, Al

APPLICANT: Units, Jack

APPLICANT: Hinchman, Carolyn

TITLE OF INVENTION: DIAGNOSTIC MARKERS FOR HUMAN DISORDERS

FILE REFERENCE: CDS195 Jim Harrington

CURRENT APPLICATION NUMBER: US/99/317,702A

CURRENT FILING DATE: 1999-05-24

NUMBER OF SEQ ID NOS: 43

SOFTWARE: Patentin Ver. 2.1

SEQ ID NO 6

LENGTH: 6

TURENT FILING DATE: 1999-05-24
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                                                                                                                                          ; OTHER INFORMATION:
; OTHER INFORMATION:
US-09-657-276-766
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                                                            Query Match
Best Local S
Matches 5
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Best Local S
Matches 5
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GENERAL INFORMATION
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                                                                                                                                                                                                                                                             SEQ ID NO 766
                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/657,276
CURRENT FILING DATE: 2000-09-07
PRIOR APPLICATION NUMBER: 60/134,406
PRIOR FILING DATE: 1999-05-17
PRIOR APPLICATION NUMBER: 60/153,406
PRIOR FILING DATE: 1999-09-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                          LENGTH: 6
TYPE: PRT
ORGANISM: Artificial Sequence
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les 5; Conserv
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nes 5; Conserv
             4 PFPGPL 9
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1 PFPGPI 6
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Holmes, Darren
Thibaudeau, Karen
Thibaudeau, Karen
VENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM
VENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD
VENTION: COMPONENTS
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Ezrin, Alan
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                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                          Description of Artificial Sequence: Synthetic Peptide
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                                                                           60.3%;
83.3%;
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83.3%;
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                                                                           Score 35;
Pred. No.
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Pred. No. 2.6e+06,
1; Mismatches
                                                             Mismatches
                                                                         2.6e+06;
                                                                                            DB 20;
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CURRENT FILING DATE: 2000-09-07
PRIOR APPLICATION NUMBER: 60/134,406
PRIOR FILING DATE: 1999-05-17
PRIOR APPLICATION NUMBER: 60/153,406
PRIOR FILING DATE: 1999-09-10
PRIOR APPLICATION NUMBER: 60/159,783
PRIOR APPLICATION NUMBER: 60/159,783
PRIOR FILING DATE: 1999-10-18
PRIOR FILING DATE: 1999-10-18
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Best Local Similarity bo...
Thes 5; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
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                                                                                                                                                                   ZIP: 20004

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PSTENTIN BALBASE #1.0, VE

CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Thibaudeau, Karen
TITLE OF INVENTION: PROTECTION OF ENDOGENOUS THERAPEUTIC PEPTIDES FROM
TITLE OF INVENTION: PEPTIDASE ACTIVITY THROUGH CONJUGATION TO BLOOD
TITLE OF INVENTION: COMPONENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH:
                CLASSIFICATION: 514
PRIOR APPLICATION UDATA:
APPLICATION NUMBER: US 07/802,982
FILING DATE: 06-DEC-1991
APPLICATION NUMBER: US 07/323,421
FILING DATE: 14-MAR-1989
                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: ANANTHANARAYANAN, V.S.
TITLE OF INVENTION: PHARMACEUTICAL COMPOSITION AND METHOD
TITLE OF INVENTION: FOR MEDIATING THE PHYSIOLOGICAL EFFECT
NUMBER OF SEQUENCES: 25
                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                 FILING DATE:
                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                               STATE:
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                                                                                                                                                                                                                                                                                                                                         SSEE: Browdy and Neimark IT: 419 Seventh St., Suite Washington, N.W.
                                                                                                                                                                                                                                                                                                                             D.C.
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Holmes, Darren
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Ezrin, Alan
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                                                                                                                                                                                                                                                                                                             USA
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Pred. No.
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Maximum Match 100%
Listing first 45 summaries
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Match
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Gapop 10.0 , Gapext 0.5
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58
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(/cgn2_6/ptodata/2/paa/USO7_COMB.pep: *
(/cgn2_6/ptodata/2/paa/USO7_COMB.pep: *
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Copyright (c) 1993 - 2000 Comp
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17 US-09-317-702-6

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5 US-08-247-451-6

17 US-09-317-702-1

18 US-09-428-692-5

20 US-09-657-276-748
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Sequence 3, Appli
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Sequence 6, Appli
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Sequence 2, Appli
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APPLICANT: Strauss, Hans Josef
APPLICANT: Gao, Liquan
TITLE OF INVENTION: Immunotherapeutic Metho
TITLE OF INVENTION: GATA-1
FILE REFERENCE: ICI 101
CURRENT APPLICATION NUMBER: US/09/625,963
CURRENT FILLNG DATE: 2000-07-26
PRIOR APPLICATION NUMBER: PCT/GB99/03572
PRIOR APPLICATION NUMBER: GB9823897.5
PRIOR APPLICATION NUMBER: GB9823897.5
PRIOR FILING DATE: 1998-11-02
PRIOR FILING DATE: 1998-11-02
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 3
LENGTH: 10
TYPE: PAT
ORGANISM: Homo sapiens
US-09-625-963-3
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                  1 HLMPFPGPLL 10
1 HLMPFPGPLL
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Pred. No.
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25-DEC-1991;
01-SEP-1992;
The peptides given in AAR26793-801 inhibit prolyl endopeptidase and are used in prevention and treatment of amnesia. They may be administered orally as powder, granules, tablets, capsules or liq. prepn. or parenterally as suspension, liq. prepn., emulsion or injection. E.g. they may be included as a component of a nutrient. The peptides may be prepd. by condensation of two suitable fragments, i.e. one having a reactive carboxy gp. and the other having
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The sequences given in AAR53607-26 are peptides which have opioid activity. These peptides are produced by hydrolysing lactoprotein with neutral protease derived from alkali protease. The peptides and their salts are useful as analgesics, hypnotics, gastrointestinal hormone stimulating agents, electrolyte adsorption stimulating agents, diarrhoea treating agents, etc. The peptide given in AAR53608 shows lower opioid activity and is therefore expected to be used as processes.
                                                                                                           Claim 1; Page 1; 11pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                   Prolyl endopeptidase inhibitor (1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR26793 standard; peptide; 9 AA.
                                                                                                                                         amnesia
                                                                                                                                                     Prolyl endo:peptidase inhibitors - for treating and preventing
                                                                                                                                                                               WPI; 1992-303600/37.
                                                                                                                                                                                                                                     30-NOV-1990;
                                                                                                                                                                                                                                                              30-NOV-1990;
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                                                                                                                                                                                                                                                                                                                     JP04208299-A
                                                                                                                                                                                                                                                                                                                                              Synthetic
                                                                                                                                                                                                                                                                                                                                                                         Amnesia; endopeptidase
                                                                                                                                                                                                                                                                                                                                                                                                                               11-FEB-1993 (first entry)
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91JP-0356633.
92JP-0255403.
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Pred. No. 3.4e+05;
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Matches 5; Conserv
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                                                                                                           a reactive amino {\tt gp.} , by a method using DCC, and subsequent deprotection. The condensation may be made by the liq.-phase or solid-phase method.
                                                                                          Sequence
3 pfpgpi
                     4 PFPGPL
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                                         Conservative
                                                                                          AA;
                                                   60.3%;
83.3%;
                                                             Score 35;
                                                    Pred.
                                          Mismatches
                                                    No. 3.4e+05
                                                             DB 13;
                                                             Length
                                         Indels
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Search completed: October 23, 2001, 13:34:29 Job time: 276 sec

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RESULT 1
AAY49371
ID AAY4
XX AAY
XX AAY
XX D1A
DT 13-1
DE Beta
XX D1A
KW aut.
KW aut.
KW betti
KW aut.
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XX Syn
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RESULT 13
AAB74637
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15-JUN-1998;
24-MAY-1999;
                           AAB74637;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention provides diagnostic markers for a human disorder, comprising either opiate-like peptides or opiate-drived peptides. The novel peptides are used as diagnostic marker, in ex-vivo methods of diagnosing human disorders e.g. autism spectral disorders including autism pervasive developmental disorder, Aspergers syndrome, attention deficient disorder and attention hyperactivity disorder, and multiple sclerosis, Parkinson's disease and Alzheimer's dementia. Sequences ARA449371-413 represent peptide diagnostic markers for the human
                                                                        AA#74637 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       autism pervasive developmental disorder; Aspergers syndrome; attention deficient disorder; attention hyperactivity disorder; multiple sclerosis; Parkinson's disease; Alzheimer's dementia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Diagnostic marker;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Beta-casomorphin derivative peptide as diagnostic marker.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY49371;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAY49371 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 PFPGPL 9
|||||:
2 pfpgpi 7
                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                          4 PFPGPL 9
                                                                                                                                                                                                           |||||:
| pfpgp1 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000-074781/07.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Page 6; 44pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       specified
                                                                                                                                                                                                                                                                                                                                                                                                                                                          7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human disorders e.g. autism spectral disorders, multiple Parkinson's disease and Alzheimer's dementia \boldsymbol{\cdot}
                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                       3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Venturini AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98US-0089237.
98US-0089238.
99US-0317702.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99EP-0304636
                                                                             peptide; 7 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       human disorder; opiate; autism spectral disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       above.
                                                                                                                                                                                                                                                                                                                                           60.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Daiss JL,
                                                                                                                                                                                                                                                                                                                                             Score 35; Pred. No.
                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INC.
                                                                                                                                                                                                                                                                                                                                           3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                         DB 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Friedman
                                                                                                                                                                                                                                                                                                                                                                      Length 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AE;
                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                  0;
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Best Local Similarity
~~+~hes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 14
AAR53626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DT XXX PD XXX PD
                                                                                                                                                                                                                          Opioid; activity; hydrolysis; lactoprotein; neutral protease; alkali protease; gastrointestinal hormone stimulating agents; analgesics; hypnotics; electrolyte adsorption stimulating age
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein fragment (the present heptapeptide sequence:
Tyr-Pro-Phe-Pro-Gly-pro-Ile) having anxiolytic activity to mammalian
youth proved in behavioural and neurochemical tests carried out 1-7
weeks later after cancelling peptide administration. The heptapeptide
has tranquilliser and central nervous system activities. The method is
useful for reducing anxiety and increasing central nervous
                   02-NOV-1992;
                                                                  10-MAY-1994.
                                                                                                                                                                                                           diarrhoea treating
                                                                                                                                                                                                                                                                                                                               Opioid peptide
                                                                                                                                                                                                                                                                                                                                                                                                                             AAR53626;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR53626 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dubynin VA, Alfeeva Yu L,
                                                                                                                  JP06128287-A
                                                                                                                                                                 Mammalian.
                                                                                                                                                                                                                                                                                                                                                                              25-JAN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; Column
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Heptapeptide from milk central nervous system
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-217067/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         capability
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (ASMO=) AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10-JAN-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RU2161500-C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                behavioural;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mammalia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 pfpgpi 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4 PFPGPL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in mammals.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          reducing anxiety and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USSR MOLECULAR GENETICS INST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; mammalian; central nervous system;
neurochemical; anxiety; anxiolytic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ΑĀ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ashmarin IP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      fragment
                      92JP-0315515.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99RU-0114696
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                                                                                                                                           agents; drug.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        peptide; 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5pp; Russian.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein used capacity -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Kamenskii AA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ۲,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 35;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Myasoedov
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 22; 1
3.4e+05;
hes 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          reducing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Malinovskaya IV;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          anxiety and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tranquilliser;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        applying a milk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          increasing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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RESULT
AAR53416
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Best Local !
                                                                                                                                                                                                                                                                                                                                                                                                                                                      active ingredient. The peptide is derived from milk casein and has opioid activity. Compsns. contg. it are used to improve the appearance of sunburned skin or skin irritated by other agents or t counteract the effects of ageing on the skin. The amt. of peptide i the compsn. is 0.1-10 (pref. 0.1-5)a wt. %. The peptide is free of other peptides of mol. wt. > 3000.
        New penta:peptide(s) having opioid activity - useful e.g. as analgesics, sleeping drugs, gastrointestinal hormone secretion promoters and electrolyte absorption promoters
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cosmetic compsn. contg. peptide as active principle - obtd. by hydrolysis of casein, with opioid activity, used for improving appearance of skin sunburn or other irritation
                                                                                                                                                                                                         Opioid; analgesic; sleeping drug; gastrointestinal hormone secretion promoter;
                                                                                          14-AUG-1992;
                                                                                                              02-NOV-1992;
                                                                                                                                    19-APR-1994.
                                                                                                                                                                          Synthetic
                                                                                                                                                                                               electrolyte
                                                                                                                                                                                                                                      Peptide having opioid activity.
                                                                                                                                                                                                                                                           30-DEC-1994 (first entry)
                                                                                                                                                                                                                                                                                                    AAR53416 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 1; Page 13; 16pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1992-331438/40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (OREA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-MAR-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-SEP-1992.
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|||||:
2 pfpgpi 7
                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
nes 5; Conserv
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                                                                     ) NISSHIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ) L'OREAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bitri L,
                                                                                                                                                                                                                                                                                                                                                                                                                                               7 AA;
                                                                                                                                                                                               absorption
                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            91FR-0002510
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                                                                                          92JP-0237577
                                                                                                              92JP-0315516.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SA.
                                                                                                                                                                                                                                                                                                   peptide; 7 AA.
                                                                                                                                                                                                                                                                                                                                                                                                      60.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Darmanton
                                                                      MILLING
                                                                                                                                                                                               promoter;
                                                                                                                                                                                                                                                                                                                                                                                                      Score 35; DB 13;
Pred. No. 3.4e+05;
                                                                      င္ပ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Р;
                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                 diarrhoea
                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                 Length 7;
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                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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RESULT 1
                                                                Query Match
Best Local Similarity
""" best 5; Conserve
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              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                    07-NOV-1991;
25-DEC-1991;
01-SEP-1992;
                                                                                                   The sequences given in AAR53607-26 are peptides which have opioid activity. These peptides are produced by hydrolysing lactoprotein with neutral protease derived from alkali protease. The peptides and their salts are useful as analyssics, hypnotics, gastrointestinal hormone stimulating agents, electrolyte adsorption stimulating agents, diarrhoea treating agents, etc. The peptide given in AAR53608 shows lower opioid activity and is therefore expected to be used as processe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The peptide has high opioid activity, being useful as an analgous sleeping drug, gastrointestinal hormone secretion promoter, electrolyte absorption promoter and as an agent for mitigating diarrhoea due to constriction of the gastrointestinal transpor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Opioid; activity; hydrolysis; lactoprotein; neutral protease; alkali protease; gastrointestinal hormone stimulating agents; analgesics; hypnotics; electrolyte adsorption stimulating age
                                                                                                                                                                                                                                  diarrhoea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       diarrhoea treating agents; drug.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       muscle.
                                                               Sequence
                                                                                                                                                                                                          Claim 10;
                                                                                                                                                                                                                                             New opioid peptide(s) and their salts - are used for stimulating e.g. electrolyte absorption and t
                                                                                                                                                                                                                                                                                    WPI; 1994-188987/23
                                                                                                                                                                                                                                                                                                            (NISS ) NISSHIN FLOUR MILLING
                                                                                                                                                                                                                                                                                                                                                                                       02-NOV-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                10-MAY-1994.
                                                                                                                                                                                                                                                                                                                                                                                                                                        JP06128287-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Opioid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-JAN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAR53623 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
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|||||:
2 pfpgpi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      peptide
                                                                                                                                                                                                        Page 13; 15pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
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                                                                A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                    91JP-0318569.
91JP-0356633.
92JP-0255403.
                                                                                                                                                                                                                                                                                                                                                                                        92JP-0315515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 constriction of the gastrointestinal transport
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bpp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60.3%;
83.3%;
              60.3%;
83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7
Score 35; DB 15;
Pred. No. 3.4e+05;
1; Mismatches (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 35; DB 15;
Pred. No. 3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
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                                                                                                                                                                                                                                               d as analgesic,
treating
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                          Length 7;
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                                                                                                                                                                                                                                              The invention provides diagnostic markers for a human disorder, comprising either opiate-like peptides or opiate-derived peptides. The novel peptides are used as diagnostic marker, in ex-vivo methods of diagnosting human disorders e.g. autism spectral disorders including autism pervasive developmental disorder, Aspergers syndrome, attention deficient disorder and attention hyperactivity disorder, and multiple sclerosis, Parkinson's disease and Alzheimer's dementia. Sequences ANY49371-413 represent peptide diagnostic markers for the human disorders specified above.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-JUN-1998;
15-JUN-1998;
24-MAY-1999;
               AAP50912 standard; peptide;
                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                Claim 4;
                                                                                                                                                                                                                                                                                                                                                                                                                          Diagnosing human disorders e.g. autism spectral disorders, multiple sclerosis, Parkinson's disease and Alzheimer's dementia -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-JAN-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Diagnostic marker; human disorder; opiate; autism spectral disorder; autism pervasive developmental disorder; Aspergers syndrome; attention deficient disorder; attention hyperactivity disorder; multiple sclerosis; Parkinson's disease; Alzheimer's dementia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY49376;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (ORTH-) ORTHO-CLINICAL DIAGNOSTICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        beta-casomorphin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Beta-casomorphin derivative peptide as diagnostic marker.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAY49376 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens.
                                                                                        1 pfpgpi 6
                                                                                                                    4 PFPGPL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N
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                                                                                                                                                                                                                                                                                                                                                                                             Page 6; 44pp; English.
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                                                                                                                                                 Conservative
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98US-0089238.
99US-0317702.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               peptide;
                                                                                                                                                           60.3%;
                                                                                                                                               Score 35; DB Pred. No. 3.46
1; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                         BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Friedman
                                                                                                                                                             .4e+05
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                                                                                                                                                                         Length 6;
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                                                                                                                                               Indels
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Best Local S
Matches 5
                             Milk casein;
                                                        Sequence of
                                                                                     03-FEB-1993
                                                                                                                  AAR27171;
                                                                                                                                          AAR27171 standard;
                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                           AAS 1-4 represent morphiceptin; AAS 1-7 represent beta-casomorphin. The assay test sample, pref. plasma or serum, is incubated with labelled peptides and specific antibody (immobilised on protein Acontg. Staphylococus), pref. in a buffer. The liq. and solid phase are then sepd. and the gamma activity of the latter counted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 16; Page 13; 15pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Determining the risk of sudden infant death syndrome - by measuring concn. of morphiceptin or beta-casomorphin in the blood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09-SEP-1983;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence of morphiceptin and beta-casomorphin used in radioimmunoassay for determining the risk of sudden infant death
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1985-106364/18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (WELL ) WELLCOME FOUNDATION LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-SEP-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-MAY-1985
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mes 5; Conser
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                                                      peptide derived
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                                                                                                                                                                                                                                                                                                                                                  AA;
                         opioid; sunburn; ageing; therapy
                                                                                   (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  83GB-0024167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               84EP-0110703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /label=
5..7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /label= Pro-NH2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "absent from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /label= H-(125I)iodo-Tyr
                                                                                                                                             Protein;
                                                                                                                                                                                                                                                                                        60.3%;
83.3%;
                                                     from milk casein with opioid activity.
                                                                                                                                                                                                                                                                                        Score 35;
Pred. No.
                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              morphiceptin"
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3.4e+05;
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Thes 5; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                            administered orally as powder, granules, tablets, capsules or liq. prepn. or parenterally as suspension, liq. prepn. emulsion or injection. E.g. they may be included as a component of a nutrient. The peptides may be prepd. by condensation of two suitable fragments, i.e. one having a reactive carboxy gp. and the other having a reactive amino gp., by a method using DCC, and subsequent deprotection. The condensation may be made by the liq. phase or
                              WPI; 1992-303600/37.
       Prolyl endo:peptidase inhibitors -
                                                                                                                                     JP04208299-A
                                                                                                                                                           Synthetic
                                                                                                                                                                                                  Prolyl endopeptidase inhibitor
                                                                                                                                                                                                                        11-FEB-1993
                                                                                                                                                                                                                                            AAR26798
                                                                                                                                                                                                                                                                AAR26798 standard; peptide; 9 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The peptides given in AAR26793-801 inhibit prolyl endopeptidase and are used in prevention and treatment of amnesia. They may be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; Page 1; 11pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Prolyl endo:peptidase inhibitors -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1992-303600/37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JP04208299-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Synthetic.
                                                                       30-NOV-1990;
                                                                                           30-NOV-1990;
                                                                                                                 29-JUL-1992
                                                                                                                                                                               Amnesia; endopeptidase
                                                                                                                                                                                                                                                                                                                                                                                                                                    solid-phase method.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amnesia
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1 iypfpgpi 8
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                                                   AJINOMOTO
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                                                                                                                                                                                                                       (first entry)
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62.5%;
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Pred. No. 3.4e+05;
                                                                                                                                                                                                    (6)
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                                                                                                                                                                                                                                                                                                                                                             Mismatches
         for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   for treating and preventing
       treating and
                                                                                                                                                                                                                                                                                                                                                                               Length
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        preventing
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Best Local Similarity
Matches 5; Conserv
                                        The peptides given in AAR26793-801 inhibit prolyl endopeptidase and are used in prevention and treatment of amnesia. They may be administered orally as powder, granules, tablets, capsules or liq. prepn. or parenterally as suspension, liq. prepn., emulsion or injection. E.g. they may be included as a component of a nutrient. The peptides may be prepd. by condensation of two suitable fragments, i.e. one having a reactive carboxy gp. and the other having a reactive amino gp., by a method using DCC, and subsequent deprotection. The condensation may be made by the liq.-phase or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The peptides given in AAR26793-801 inhibit prolyl endopeptidase and are used in prevention and treatment of amnesia. They may be administered orally as powder, granules, tablets, capsules or liq. prepn. or parenterally as suspension, liq. prepn., emulsion or injection. E.g. they may be included as a component of a nutrient. The peptides may be prepd. by condensation of two suitable fragments, i.e. one having a reactive carboxy gp. and the other having a reactive amino gp., by a method using DCC, and subsequent deprotection. The condensation may be made by the liq.-phase or
                          deprotection. The solid-phase method.
                                                                                                                                                                                             Claim 1; Page 1; 11pp; Japanese
                                                                                                                                                                                                                                          Prolyl endo:peptidase inhibitors -
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR26797;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 1; Page 1; 11pp; Japanese
Sequence
                                                                                                                                                                                                                                                                       WPI; 1992-303600/37
                                                                                                                                                                                                                                                                                                                                 30-NOV-1990;
                                                                                                                                                                                                                                                                                                                                                             30-NOV-1990;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Prolyl endopeptidase inhibitor (5).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11-FEB-1993
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                                                                                                                                                                                                                                                                                                  (AJIN ) AJINOMOTO KK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Amnesia; endopeptidase
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 AA;
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62.5%;
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Pred. No. 3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                          for treating and preventing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
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Query Match Best Local Similarity

62.1%; 62.5%;

Score 36; Pred. No.

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Length

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Matches 6
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Best Local
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                                                                                                   The sequences given in AAR53607-26 are peptides wnich interpretain activity. These peptides are produced by hydrolysing lactoprotein activity. These peptides are produced by hydrolysing lactoprotein with neutral protease derived from alkali protease. The peptides and their salts are useful as analyssics, hypnotics, gastrointestinal hormone stimulating agents, electrolyte adsorption stimulating agents, hypnotics are useful as analyssics, hypnotics, gastrointestinal hormone stimulating agents, electrolyte adsorption stimulating agents, at a therefore expected to be used as processed
                                                                                                                                                                                                                                                                                                                                                                       07-NOV-1991;
25-DEC-1991;
01-SEP-1992;
                                                                                                                                                                                                                                                                                                                   WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence is peptide epitope hug 378-87, produced by gata-1 expressing cells and found at residues 378-387 of the gata-1 protein, which is recognised by cytotoxic T lymphocytes. Gata-1 is aberrantly expressed in leukaemias. The peptide can be used as a vaccine to stimulate the elimination, by cytotoxic T lymphocytes, of cancer cells aberrantly expressing gata-1. In addition, the nucleic acid encoding the peptide may also be used in the same manner. Alternatively, the peptide may be used in vitro to produce activated cytotoxic T lymphocytes.
                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Opioid; activity; hydrolysis; lactoprotein; neutral protease; pastrointestinal hormone stimulating agents; analgesics; hypnotics; electrolyte adsorption stimulating agents; diarrhoea treating agents; drug.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Opioid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JP06128287-A.
                                                                                                                                                                                                                                 Disclosure;
                                                                                                                                                                                                                                                                    New opioid peptide(s) and their salts - are used as analgesic, for stimulating e.g. electrolyte absorption and treating
                                                                                                                                                                                                                                                                                                                                           (NISS ) NISSHIN FLOUR MILLING
                                                                                                                                                                                                                                                                                                                                                                                                                             02-NOV-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          10-MAY-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mammalian.
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91JP-0356633.
92JP-0255403.
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25-DEC-1991;
01-SEP-1992;
                       11-FEB-1993
                                                                AAR26796 standard;
                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                      The sequences given in AARS3607-26 are peptides which have opioid activity. These peptides are produced by hydrolysing lactoprotein with neutral protease derived from alkali protease. The peptides and their salts are useful as analgesics, hypnotics, gastrointestinal hormone stimulating agents, electrolyte adsorption stimulating agents, diarrhoea treating agents, etc. The peptide given in AARS3608 shows lower opioid activity and is therefore expected to be used as processes.
                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 13; 15pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                    diarrhoea
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        diarrhoea treating agents; drug.
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92JP-0255403.
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Prolyl endopeptidase inhibitor (4).

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Gapop 10.0 , Gapext 0.5
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58
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Copyright (c) 1993 - 2000 Compugen Ltd
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XX Cla RESULT Claim 3; Page 74; 93pp; English. Novel peptides comprising WT-1 and GATA-1 epitopes, their fragments variants, useful as vaccines for cancer immunotherapy WPI; 2000-376123/32. Stauss HJ, (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD 02-NOV-1998; 02-NOV-1999; 11-MAY-2000. WO200026249-A1. Homo sapiens. Hug 378-87; peptide; epitope; gata-1 gene; leukaemia; immunotherapy; transcription factor. Human cytotoxic T lymphocyte-recognised gata-1 peptide hug 378-87. 28-JUL-2000 AAY94204; AAY94204 standard; peptide; Gao L; (first entry) 98GB-0023897. 99WO-GB03572 10 A ö

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AC 093739;
DT 01-MAY-1999 (TTEMBLIFEL 10, Last sequence update)
DT 01-MAY-1999 (TTEMBLIFEL 10, Last annotation update)
DE 75 RNA PROTEIN (FRAGMENT).

GN 475 RNA PROTEIN (FRAGMENT).

RN 475 RNA PROTEIN M.;

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SEQUENCE
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SEQUENCE FROM N.A.
MEDLINE-96435920; PubMed-8838806;
- v a. Oqilvie D.J., Yamakaw
                                                                                                                                                                                                                                                                                                                                DNA FOR COSMILL
HOMO sapiens (Human).
Homo sapiens (Human).
Herota; Metazoa; Chordata;
Herota; Primates;
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Q9X3K1;
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Urbach E., Chisholm S.W.;

"Genetic diversity in Prochlorococcus sorted from the Sargasso Sea and Gulf Limnol. Oceanog. 43:1615-1630(1998).

EMBL; AF070193; AAD232333.1; -.
                                                                                                                                                                                           "Walking, cloning, and mapping with ESTs including three members of the
                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                      01-NOV-1996 (TERMBLrel. 01, Created)
01-MAY-1999 (TERMBLrel. 10, Last sequence update)
01-MAY-1999 (TERMBLrel. 10, Last annotation update)
DNA FOR COSMID CC13-1134 PCR PRIMER 1 (FRAGMENT).
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                                                                                                                                                         Genomics
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                                                                                                                                                   ESTs including three members of identification of CpG islands."; genomics 32:425-430(1996).
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Q9QWTO;
Q1-MAY-2000 (TrEMBLrel. 13, C
01-MAY-2000 (TrEMBLrel. 13, L
01-MAY-2000 (TrEMBLrel. 13, L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. PubMed=10679249;
MEDLINE=20145478; PubMed=10679249;
Lin C.S., Lau A., Tu R., Lue T.F.;
"Identification of three alternative fi
promoter of human PDE5A gene.";
Biochem. Biophys. Res. Commun. 268:596-
EMBL; AF155195; AAF40302.1;
NON_TER 8 8
NON_TER 8 8
                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.

STRAIN-SY129 D3;

Lutz P.G., MO95-Lutz C., Houz.

Submitted (JUN-1998) to the EL

EMBL; AJ007030; CAA07429.1; -

NON_TER 9

SEQUENCE 9 AA; 937 MW; C9
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Q9POK3;
O1-OCT-2000 (TrEMBLrel. 15, C
O1-OCT-2000 (TrEMBLrel. 15, L
O1-OCT-2000 (TrEMBLrel. 15, L
CGMP-SPECIFIC PHOSPHODIESTERA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROTEINASE 3 (FRAGMENT).
Mus musculus (Mouse).
Mukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Mammalia; Eutheria; NCBI_TaxID=10090;
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9606;
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PHOSPHODIESTERASE PDE5A2 (FRAGMENT).
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the EMBL/GenBank/DDBJ
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    Bos taurus (Bovine).
Bos taurus (Bovine).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Bovoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (MYOTROPIC ACTIVITY)

-!- TISSUE SPECIFICITY: CORPORA CARDIACA.
-!- MASS SPECIFOMETRY: MW=996.5; METHOD=M.
-!- SIMILARITY: BELONGS TO THE PYROKININ!
Neuropeptide; Amidation; Pyrokinin.
MOD_RES

8

AMIDATION.
                                           GAP-3,
                                                                                                                                                                                                                                                                                Borodin A.M., Danilkovich A.V., Allikmets i Chernov I.P., Azhikina T.L., Monastyrskaya Dokl. Biochem. 302:1261-1265(1988). EMBL; X15849; CAA33847.1; -.
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                                                                                                                                                                                                                                                    Hypothetical protein.
NON_TER 9
SEQUENCE 9 AA; 852
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01-NOV-1996 (TremBirel 01, 1
01-JAN-1998 (TremBirel 05, 1
HYPOTHETICAL PROTEIN IN RPOB
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"Tagma-specific distribution of FXPRLamides
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                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=303;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Differential distribution of pyrokinin-isoforms in cerebral and abdominal neurohemal organs of the American cockroach."; Insect Biochem. Mol. Biol. 29:139-144(1999).
                                                                                                                                                                                               Local Similarity
nes 3; Conserv
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Comp. Neurol. 419:352-363(2000)
- FUNCTION: MEDIATES VISCERAL MU
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-2000 (TIRMBLIRE1. 13, Last sequence update)
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B 3'REGION (FRAGMENT).
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Buchman V.L.;
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01-MAY-2000
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                                    Chauviere M., Martinage A., Debarle M., Sautiere "Molecular characterization of six intermediate processing of mouse protamine P2 precursor."; Eur. J. Blochem. 204:759-765(1992).
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brain cytosol.";
J. Biol. Chem. 267
          SEQUENCE
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MEDLINE=92174934; PubMed=1541289;
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Nice E.C., Fabri I
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a; 1063 MW; 89EDA7
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Sciurognathi; Muridae;
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01-MAY-2000
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SEQUENCE FROM N.A.

MEDLINE=95194921; PubMed=7534109;

MEDLINE=95194921; PubMed=7534109;

Yoshida H., Naoe T., Fukutani H., Kiyoi H., Kubo K., Ohno k.,

Yoshida H., Naoe T., Fukutani H., Kiyoi H., Kubo K., Ohno k.,

Yoshida H., Naoe T., Fukutani H., Kiyoi H., Kubo K., Ohno k.,

Yoshida H., Naoe T., Fukutani H., Kiyoi H., Kubo K., Ohno k.,

Analysis of the joining sequences of the t(15,17) translocation

human acute promyelocytic leukemia: sequence non-specific

human acute promyelocytic leukemia: sequence non-specific
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NON_TER
SEQUENCE
   Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=9606;
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MEDLINE-97264487; PubMed-9110313;
Cserjesi P., Fang H., Brandhorst B.F
"Metallothionein gene expression in
Lytechinus pictus.";
Mol. Reprod. Dev. 47:39-46(1997).
                                                                                                                                                                                                                                                                                                                        Q9UNF2
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
NCBI_TaxID=9606;
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                                                                                               Homo sapiens (Human)
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Echinoidea;
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Euechinoidea; Echinacea; Temnopleuroida; Toxopneustidae;
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
COMPLEMENT COMPONENT C1S-SERINE PROTEASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
TISSUB-BREAST;
RATCLIFFE T.A., Vitz J.R., Ray D.B.;
RATCLIFFE T.A., Vitz J.R., Ray D.B.;
RATCLIFFE T.A., Vitz J.R., Ray D.B.;
RATLO, 828 bp: cytosine replaces adenine.
Submitted (FEB-1999) to the EMBL/GenBank
EMBL; AF128441; AAD32608.1; -.
        SEQUENCE, FUNCTION, AND MASS SPECT TISSUE=RETROCEREBRAL COMPLEX; MEDLINE=99212469; PubMed=10196736;
                                                                                                                                                                                                                                                                                                     MEDIINE=91308095; PubMed=1854725;
Illy C., Thielens N.M., Gagnon J., Arlaud G.J.;
"Effect of lactoperoxidase-catalyzed iodination on the
dependent interactions of human Cls. Location of the
                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                         Biochemistry 30:7135-7141(1991).
SEQUENCE 10 AA; 1144 MW; 230113A766876AA8 CRC64;
                                                                                                                                                                                                                                                                                             sites."
                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human)
                                             NCBI_TaxID=6978;
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Pred. No.
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of human pro-alpha 1 (I) collagen
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Maximum Match 100%
Listing first 45 summaries
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Match
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58
1 HLMPFPGPLL 10
 October 23, 2001, 13:34:33; Search time 20.83 Seconds (without alignments) 63.517 Million cell updates/sec
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Copyright (c) 1993 - 2000 Compugen Ltd
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Q9qve9 mus sp. pro
Q9x3k1 prochloroco
Q16468 homo sapien
Q9p0k3 homo sapien
Q9p0k3 homo sapien
Q9qwf0 mus musculu
Q93739 methanother
Q9qvf0 mus sp. pro
Q85462 avian sarco
                                                                                                                     O9twv0 anthopleura
O02032 lytechinus
O92025 homo sapien
O9unf2 homo sapien
O9ucu9 homo sapien
P82618 periplaneta
O99193 pseudomonas
O9tru7 bos taurus
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| 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | 31 | 30 | 29 | | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 |
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| Q07624 | 098866 | 29XSY1 | Q9PS07 | Q9QVJ7 | 10MIG | Q69473 | Q9TT78 | 099182 | 090346 | 039957 | Q9PRU9 | Q9PRY8 | Q9QV21 | Q9MJQ5 | Q9н3R9 | Q85599 | 8£8S6Ö | Q9TWD6 | 29UMF3 | 215901 | Q45615 | P81750 | Q9QVF7 | P81898 | Q99887 |
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ALIGNMENTS

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DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 37, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DE ANGIOTENSIN-IKE PEPTIDE II (FRAGMENT).
OS BOCHNOTS) STREAGE (JATATAGE).
OC LENATYOTA: Metazoa: Chordata: Craniata; Vertebrata; Euteleostomi;
OC Libridas: Cortalinae; Bothrops.
OC Viperidas: Cortalinae; Bothrops.
OX NCBL_TaxID=8724;
RN [1]
RN SEQUENCE.
RN SEQUENCE.
RN MEDLINE=96208932; PubMed=8829801;
RN MEDLINE=96208932; PubMed=8829801;
RN MEDLINE=96208932; PubMed=8829801;
RN MEDLINE=96208932; PubMed=8829801;
RN MEDLINE=96208932; PubMed=801; Carmona E., Picarelli Z.P.;
RN MEDLINE=96208932; PubMed=8029801;
RN MEDLINE=9620893; PubMed=8029801;
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J. Ba
                                                                                    Bacteria; Firmicutes
Acholeplasmataceae;
NCBI_TaxID=2148;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Primary structure of gonadotropin-releasing hormone of a holocephalan (ratfish: Hydrolagus colliei)."; Gen. Comp. Endocrinol. 82:152-16(1991).
-!- FUNCTION: STIMULATES THE SECRETION OF GONADOTROPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SPECIES-H.colliei; TISSUE-Brain; MEDLINE-91340067; PubMed-1678723; Lovejoy D.A., Sherwood N.M., Fisc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Lovejoy D.A., Fischer W.H., Ngamvongchon S., Craig A.G., Nahorniak C.S., Peter R.E., Rivier J.E., Sherwood N.M., "Distinct sequence of gonadotropin-releasing hormone (Gn dogfish brain provides insight into GnRH evolution."; Proc. Natl. Acad. Sci. U.S.A. 89:6373-6377(1992).
                       organism
                                                       SEQUENCE FROM N.A. MEDLINE=92210505;
                                                                                                                                                                                                                                                                                                                                                                                                                                          PIR; B60066; RHAQ2.
PIR; A61126; A61126.
PIR; B46030; B46030.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE.
SPECIES=S.acanthias; TISSUE=Brain;
MEDLINE=92335300; PubMed=1631133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lance V., Swanson P., Rivier J.E., Sherwood N.M.; Parl "Primary structure of two forms of gonadotropin-releasing from brains of the American alligator (Alligator mississig Regul. Pept. 33:105-116(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SPECIES-A.mississippiensis; TISSUE-Brain; MEDLINE-91352338; PubMed-1882082; Lovejoy D.A., Fischer W.H., Parker D.B.,
                                                                                                                        Acholeplasma laidlawii.
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Proc. Natl. Acad. S
                     "Evolutionary relationships of a plant-pathogenic mycoplasmalike protein sycanism and Acholeplasma laidlawii deduced from two ribosomal protein
                                                                                                                                                                                                       RL16_ACHLA
                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE;
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  Bacteriol.
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                                             P.O., Sears B.B.;
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          sequences
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PS00473; GNRH; 1.
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 174:2606-2611(1992)
                                                                                                                                                                                                       STANDARD;
                                                        PubMed=1556079,
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Last annotation update)
L16 (FRAGMENT).
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Pred. No. 2.8e+03;
1; Mismatches 0
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284B2E437871F5A3 CRC64;
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                                                                                                                                                                                                       PRT;
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RESULT 15
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AC Q10582;
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SEQUENCE
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Eukaryota; Viridiplantae; Embryophyta;
Coniferopsida; Coniferales; Pinaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
UNKNOWN PROTEIN FROM 2D-PAGE OF NEEDLES (N141) (FRAGMENT).
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                                                                                                                                                                                                                                                                                                                                                                                                                                   proteins
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Frigerio J.-M., Plomion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=Needle;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=71647;
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                                                                                                                                                                                                                                                                                                                                                                                                                  Electrophoresis 20:1098-1108(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=99274088; PubMed=10344291;
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2; Conserv
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                                                                                                                                                                                                                                                                                                            69D76724486B5740
                                                                                                                                                                                                      Score 15; DB 1;
Pred. No. 9.3e+04
1; Mismatches
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                       PRT;
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2.8e+03;
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P43172;
01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence up
01-FEB-1996 (Rel. 33, Last annotation
FMRFAMIDE-LIKE NEUROPEETIDE AF9.
                                                                                                                                                                                                                                                                                                                                                                                                                                               NON_TER
SEQUENCE
                                                                                                                                       Neuropeptide;
MOD_RES
                                                                                                                                                                                          MEDLINE=95380362; PubMed=7651904;
Cowden C., Stretton A.O.W.;
"Eight novel FMRFamide-like neuro
                                                                                                                                                                                                                                                       Ascaris suum (Pig roundworm) (Ascaris lumbricoides).
Eukaryota; Metazoa; Nematoda; Chromadorea; Ascaridida;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hughes G.J., Frutiger S., Paquet N., Ra
Sanchez J.-C., James R., Tissot J.-D.,
Hochstrasser D.F.;
                                                                                                                               SEQUENCE
                                                                                                                                                                Peptides 16:491-500(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Plasma protein map: an update by microsequencing. Electrophoresis 13:707-714(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
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01-OCT-2000
                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                      NCBI_TaxID=6253;
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Fissot J.-D., Bjellqvist
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                                                                                Score 16; DB
Pred. No. 9.3e
0; Mismatches
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RESULT 12
GON2_CHICK
ID GON2_CHICK
ID GON2_CHICK
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ID GON2_CHICK
AC p37043; p20408;
DT 01-FEB-1991 (Rel. 17, Created)
DT 01-FEB-1991 (Rel. 17, Last sequence update)
DT 01-FEB-1991 (Rel. 17, Last annotation update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE (LH-RH II) (LULIBERIN II).
OS Gallus gallus (Chicken),
Alligator mississipiensis (American alligator),
OS Squalus acanthias (Spiny dogfish), and
OS Hydrolagus colliei (Spotted ratfish) (Pacific ra
CC Eukaryota; Metazoa; Chordata; Craniata; Vertebra
OC Archosauria; Aves; Neognathae; Galliformes; Phas
OC Archosauria; Aves; Neognathae; Galliformes; Phas
OC MCBI_TaxID=9031, 8496, 7797, 7873;
RN (1]
RP SEQUENCE
SEQUENCE
RY MEDLINE=84222059; PubMed=6427779;
RA Matsuo H.;
RA Matsuo H.;
RT "Identification of the second gonadotropin-relear
Chicken hypothalamus: evidence that gonadotropin
RT probably controlled by two distinct gonadotropin
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01-DEC-1992 (Rel. 24, Created)
01-DEC-1992 (Rel. 24, Last sequence update)
01-DEC-1992 (Rel. 34, Last annotation update)
01-OCT-1996 (Rel. 34, Last annotation update)
METHYLATED-DNA--PROTEIN-CYSTEINE METHYLTRANSFERASE
METHYLGUANINE-DNA METHYLTRANSFERASE) (FRAGMENT).
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NON_TER
SEQUENCE
Matsuo H.;
"Identification of the second gonadotropin-releasing hormone
chicken hypothalamus: evidence that gonadotropin secretion is
probably controlled by two distinct gonadotropin-releasing hor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nuclèic acids Res. 18:17-21(1990).

-I- FUNCTION: REPAIR OF ALKYLATED GUANINE IN DNA BY STOICHIOMETRICALLY
-I- FUNCTION: REPAIR OF ALKYLATED THE O-6 POSITION TO A CYSTEINE
RESIDUE IN THE ENZYME. THIS IS A SUICIDE REACTION: THE ENZYME IS
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DNA repair;
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"Active site amino acid sequence
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Mammalia; Eutheria;
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nes 3; Conserv
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SIMILARITY: WITH SEGMENTS OF E.CULT
SIMILARITY WITH SEGMENT WITH SEGMEN
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CATALYTIC ACTIVITY: DNA (CONTAINING
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; Methyltransferase.
                                                                                                                                                                                  Nomura M., Igarashi M., Kangawa
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ta; Vertebrata; Euteleostomi;
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GUANINE) + PROTEIN
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S-METHYL-
                                   hormones
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Best Local S
Matches 3
                                           STRAIN-VERO BEACH; TISSUE-OVARY;

MEDLINE-93357794; PubMed-e353526;

Borovsky D., Carlson D.A., Griffin P.R., Shabanowitz J., Hunt D.F.;

"Mass spectrometry and characterization of Aedes aegypti trypsin

modulating oostatic factor (TMOF) and its analogs.";

modulating oostatic factor (TMOF) and its analogs.";

risect Biochem. Mol. Biol. 23:703-712(1993).

-i- FUNCTION: HAS AN OOSTATIC ACTIVITY. INHIBITS TRYPSIN BIOSYNTHESIS

IN THE MIDGUT WHICH INDIRECTLY REDUCES THE VITELLOGENIN

CONCENTRATION IN THE HEMOLYMPH RESULTING IN INHIBITION OF OOCYTE
                                                                                                                                                                                                                     STRAIN=VERO BEACH; TISSUE=Ovary; MEDLINE=90367888; PubMed=2394318; Borovsky D., Carlson D.A., Griffin P.R., Shabanowitz J., I Borovsky D., Carlson b.A. and a novel decapeptide modulating "Mosquito costatic factor: a novel decapeptide modulating trypsin-like enzyme biosynthesis in the midgut."; FASEB J. 4:3015-3020(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                        01-NOV-1990 (Rel. 16, Created)
01-NOV-1990 (Rel. 16, Last sequence update)
01-FEB-1996 (Rel. 33, Last annotation update)
TRYPSIN-MODULATING OOSTATIC FACTOR (TMOF) (OOSH).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Schach S., Tshisuaka B., Fetzner S., Lingens F.;
"Quinoline 2-oxidoreductase and 2-oxo-1,2-dihydroquinoline
dioxygenase from Comamonas testostroni 63. The first two e
quinoline and 3-methylquinoline degradation.";
Eur. J. Biochem. 232:536-544(1995).
-I- FUNCTION: CONVERTS (3-METHYL-)-QUINOLINE TO (3-METHYL-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-NOV-1995 (Rel.
01-NOV-1995 (Rel.
01-FEB-1996 (Rel.
                   -
                                                                                                                                                                                                                                                                                                                                                Culicidae; Aedes.
NCBI_TaxID=7159;
                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TWO GAMMA CHAINS (PROBABLE).
Oxidoreductase; Flavoprotein; FAD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Comamonas testosteroni (Pseudomonas testosteroni).
Bacteria; Proteobacteria; beta subdivision; Comamonadaceae; Comamonas.
NCBI_TaxID=285;
                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                           Aedes aegypti (Yellowfever mosquito).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1, 2-DIHYDROQUINOLINE.
-I- COFACTOR: FAD AND MOLYBDENUM
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DEVELOPMENT.
DEVELOPMENTAL STAGE:
EPITHELIUM 18-24 HRS
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95 (Rel. 32, Last sequence update)
96 (Rel. 33, Last annotation update)
2-OXIDOREDUCTASE, BETA CHAIN (EC 1.-.-) (FRAGMENT).
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75.0%;
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 AFTER A BLOOD
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                 AND RELEASED FROM
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P30096;
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SEQUENCE
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SEQUENCE
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                                                                                                                                                                                                                           EMBL; L08171; AAA25376.1;
                                                                                                                                                                                                                                              or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                        This
                                                                                                                                                                                                                                                                                                                                   Nucleic Acids Res. 21:1039-1039(1993).
-!- FUNCTION: PROTEIN S7 BINDS SPECIFICALLY TO
16S RIBOSOMAL RNA (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
MEDLINE=93197130; PubMed=8451173;
Nair J., Rouse D.A., Morris S.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                       Actinomycetales;
NCBI_TaxID=1767;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mycobacterium
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01-FEB-1994
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacteria; Firmicutes;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RIBOSOMAL
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                                                                                PFPGP
                                                                                                                                                                                                                                                                          SWISS-PROT entry is copyright. It is produced through a collable en the Swiss Institute of Bioinformatics and the EMBL outst European Bioinformatics Institute. There are no restrictions by non-profit institutions as long as its content is in
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P42984;
01-NOV-1995
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 32, Last annotation update)
01-NOV-1995 (Rel. 32, Last annotation update)
MYOTROPIC NEUROPEPTIDE 1 (LED-MNP-I).
Leptinotarsa decemlineata (Colorado potato beetle).
Fukarvota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
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SEQUENCE
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01-NOV-1997 (Rel. 35, Last annotation update)
SERUM AMYLOID P-COMPONENT (SAP) (FRAGMENT).
Mustelus canis (Smooth dogfish).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
Eukaryota; Metazoa; Chordata; Galeoidea; Carcharhiniformes; Triakidae;
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                                                                                                                                                                                  LEPDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      component.";
J. Biol. Chem. 258:3889-3894(1983).
-I- SUBUNIT: HOMOPENTAMER. PENTAXIN (OR PENTRAXIN)
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01-NOV-1990 (Rel. 16,
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DISEASE: SAP IS A PRECURSOR OF AMYLOID COMPONENT
IN BASEMENT MEMBRANE AND ASSOCIATED WITH AMYLOID
SIMILARITY: BELONGS TO THE PENTAXIN FAMILY.
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P23260;
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MOD_RES
SEQUENCE 7 A
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SEQUENCE
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MEDLINE-31315477; PubMed-1859413;
CONION J.M., O'Harte F., Vaudry H.;
Conion J.M., O'Harte F., Vaudry H.;
Primary structures of the bombesin-like neuropeptides in show that bombesin is not the amphibian gastrin-releasing show that bombesin is not the shown that bombesin is not the same show that bombesin is not the shown that bombesin is n
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Peptides 16:365-374(1995)
-i- FUNCTION: MYOTROPIC PEPTIDE. STIMULATES THE
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
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SIMILARITY: BELONGS TO THE BOMBESIN/NEUROMEDIN B/RANATENSIN
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3; Conser
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ilarity 100.0%
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25,
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6DD73768745B5DB0
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0; Mismatches
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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                                                                                                                                                                                                                                                                                                        Database :
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                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                91:
  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                           Score
                                                                                                                                                                                                                                                                                                                                                seq length: 0
seq length: 10
  Query
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58
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TMOF_AEDAE
RS7_MYCIT
UPAA_HUMAN
FAR9_ASCSU
MGMT_BOVIN
GON2_CHICK
RL16_ACHLA
UN06_PINPS
ANG2_BOTJAA
                                          COXO_THUOB
ANGI_BOTIA
ANGT_BOVIN
ANGT_CHICK
COXO_RAT
TRP9_LEUMA
PAP2_PARMA
PAP4_HELTI
                                                                                                                                                                                                 VGLG_HSV2B
BPP_VIPAS
SAMP_MUSCA
MNP1_LEPDE
GRP_RANRI
              AKH_TABAT
AL15_CARMA
AL16_CARMA
ALL5_CALVO
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ALL9_CARMA
        ALL8_CARMA
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P80432
P81731
P81741
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P19425
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4 pseudomonas
0 mytilus edu
1 helisoma tr
5 tabanus atr
8 carcinus ma
9 carcinus ma
1 calliphora
1 carcinus ma
2 carcinus ma
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5 pinus pinas
5 bothrops ja
2 thunnus obe
1 bothrops ja
7 bos taurus
6 gallus gall
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neuromedin C - bovine
C;Species: Bos primigenius taurus (cattle)
C;Species: Bos primigenius taurus (cattle)
C;Species: 14-May-1993 #sequence_revision 14-May-1993 #text_change 07-May-1999
C;Accession: A60647
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, S; Trifaro, J.M.; Chouinard, L.; Cecyre, D.; Dessureault, J.; Mercier, P;
R;Lemaire, L.; Cecyre, D.; Dessureault, J.; Mercier, D.; Des
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Blochem. Blophys. Res. Commun. 178; 526-530, 1991
A;Title: Primary structures of the bombesin-like neuropeptides in frog brain show that A;Reference number: PQ0177; MUID:91315477
A;Accession: PQ0177
A;Molecule type: Protein
A;Residues: 1-10 <CON>
Search completed: October 23, 2001, 13:34:48 Job time: 260 sec
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C;Superfamily: gastrin-releasing peptide
C;Keywords: amidated carboxyl end
F;10/Modified site: amidated carboxyl end (Met) #status predicted
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C;Species: Rana ridibunda (laughing frog)
C;Date: 23-Nov-1991 #sequence_revision 23-Nov-1991 #text_change 11-Jan-2000
C;Accession: P00177
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Best Local Similarity 100
Matches 3; Conservative
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100.0%; Pred. No. 3.5e+03;
tive 0; Mismatches 0;
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RESULT
S71948
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             matrix metalloproteinase 3 precursor - bovine (fragments)
N;Alternate names: MMP-3 protein; stromelysin precursor MMP-3
C;Species: Bos primigenius taurus (cattle)
C;Date: 19-Mar_1998 #sequence_revision 17-Apr-1998 #text_chance
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                                                                                                                                                                                                                                                                                               A; Molecule type: protein
A; Residues: 1-8 <STR>
C; Keywords: enamel; phosphoprotein
                                                                                                                                                                                                                                                                                                                                               R;Strawich, E.; Glimcher, M.J.
Eur. J. Biochem. 191, 47-56, 1990
A;Title: Tooth 'enamelins' identified mainly as serum A;Reference number: S10780; MUID:90336641
A;Accession: S10783
                                                                                                                                                                                                                                                                                                                                                                                                                              enamelin f - bovine (fragment)
C;Species: Bos primigenius taurus (cattle)
C;Date: 19-Mar-1997 #sequence_revision 21-Nov-1998 #text_change 21-Nov-1998
C;Accession: S10783
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S10783
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A; Residues: 1-8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          spasmogenic toxin PNV1 - spider (Phoneutria nigriventer) (fragment)
C;Species: Phoneutria nigriventer
C;Date: 07-Oct-1994 #sequence_revision 07-Oct-1994 #text_change 17-Mar-1999
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A46306
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A; Status: preliminary
A; Molecule type: protein
A; Residues: 1-10 <VAR>
C; Keywords: heterotetramer;
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Accession: S71948
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1; Mismatches 4
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               17-Apr-1998 #text_change 07-May-1999
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RESULT PQ0177

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C;Accession: H28027
C;Accession: H28027
R;Bauw, G.; De Loose, M.; Inze, D.; Van Montagu, M.; Vandekerckhove, J.
R;Bauw, G.; De Loose, M.; Inze, D.; Van Montagu, M.; Vandekerckhove, J.
Proc. Natl. Acad. Sci. U.S.A. 84, 4806-4810, 1987
A;Title: Alterations in the phenotype of plant cells studied by NH2-terminal amino A;Reference number: A94167
A;Accession: H28027
A;Accession: H28027
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                                                                                                                                                                                                                  Eur. J. Blochem. 232, 536-544, 1995
A;Title: Quinoline 2-oxidoreductase and 2-oxo-1,2-dihydroquinoline 5,6-dioxygenase
A;Reference number: 866606; MUID:96035889
A;Accession: 866607
                                                                                                                                                                                                                                                                                                                             quinoline 2-oxidoreductase beta chain - Comamonas testosteroni (fragment)
C;Species: Comamonas testosteroni
C;Date: 15-Feb-1997 #sequence_revision 13-Mar-1997 #text_change 17-Mar-1999
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S66607
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C;Spectes: Nicotiana plumbaginifolia (curled-leaved tobacco)
C;Date: 19-May-1989 #sequence_revision 19-May-1989 #text_change 18-Jun-1993
C;Accession: H28027
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A;Title: Isothiazolones interfere with normal matrix metalloproteinase activation and A;Reference number: S71948; MUID:96404887
A;Accession: S71948
                                                                                                                                                              A; Experimental source: strain
                                                                                                                                                                                 A; Molecule type: protein A; Residues: 1-9 <SCH>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FPG
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Pred. No. 1.6e+03;
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Pred. No. 2.4e+03
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2.2e+05;
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A;Molecule_type: protein
A;Residues: 1-9 <JAN>
C;Keywords: hydroxyproline
F;7/Modified &ite: hydroxyproline
                                                                                                                                                                                                     collagen alpha 2(VI) chain - bovine (fragment) C; Species: Bos primigenius taurus (cattle) C; Date: 13-Jan-1995 #sequence_revision 13-Jan-
                                                                                                                                                                                                                                                                                                                                                                δÃ
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Nucleic Acids Res. 21, 1039, 193
A;Title: Nucleotide sequence analysis of the
A;Reference number: S35537; MUID:93197130
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R;Danielsson, O; Jornvall, H.
Proc. Natl. Acad. Sci. U.S.A. 89, 9247-9251, 1992
A;Title: "Enzymogenesis": classical liver alcohol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              formaldehyde dehydrogenase (glutathione) (EC 1.2.1.1) class III low activity C;Species: Gadus morinua (Atlantic cod) C;Date: 19-Nov-1993 **sequence_revision 18-Nov-1994 **text_change 20-Mar-1996 C;Accession: D46285
                                                                                              A; Reference number: S26506;
A; Accession: S26508
                                                                                                                                                R; Jander, R.; Rautenberg, J.; Glanville, Eur. J. Biochem. 133, 39-46, 1983
                                                                                                                                                                                      C; Accession: S26508
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A; Residues: 1-9 <NAI>
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C;Species: Mycobacterium intracellulare
C;Bate: 09-Dec-1993 #sequence_revision 14-Nov-1997 #text_change 13-Aug-1999
C;Accession: S35538
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                                                                             A;Status: preliminary
                                                                                                                                A; Title: Further characterization of the three
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Pred. No. 2.2e+05;
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R.Robey, F.A.; Tanaka, T.; Liu, T.Y.
J. Biol. Chem. 258, 3889-3894, 1983
A;Title: Isolation and characterization of tw
A;Reference number: A92419; MUID:83160932
A;Accession: B20569
A;Residues: 1-9 <ROB>
C;Keywords: amyloid
R;Varner, J.; Neame, P.; Litman, G.W.
Proc. Natl. Acad. Sci. U.S.A. 88, 1746-175
A;Title: A serum heterodiner from hagfish
A;Reference number: A39111; MUID:91156684
                                                                                   Ig heavy chain C region - Pacific hagfish (fragment)
C;Species: Eptatretus stouti (Pacific hagfish)
C;Date: 18-Oct-1991 #sequence_revision 18-Oct-1991 #text_change 16-Aug-1996
                                                                                                                                             RESULT
C39111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Komori, Y.; Sugihara, H.
Int. J. Biochem. 22, 767-771, 1990
A;Title: Characterization of a new inhibitor for angiotensin A;Reference number: A60377; MUID:90382616
A;Accession: A60377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           serum amyloid P-component - smooth dogfish (fragment)
C;Species: Mustelus canis (smooth dogfish)
C;Date: 05-Jun-1987 #sequence_revision 05-Jun-1987 #text_change 18-Jun-1993
C;Accession: B20569; A05074
                                                                    C; Accession: C39111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Superfamily: bradykinin-potentiating peptide
C;Keywords: angiotensin-converting enzyme inhibitor;
F;1/Modified site: pyrrolidone carboxylic acid (Gln)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  angiotensin-converting enzyme inhibitor - aspic viper
C;Species: Vipera aspis (aspic viper)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 08-Dec-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: protein A; Residues: 1-10 < KOM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Accession: A60377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        XASNPC
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75.0%;
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Pred. No. 7.3e+02;
                                                                                                                                                                                                                                                                                                 Score 20; I
Pred. No. 2.
                                      1746-1750,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 21; DB
Pred. No. 2.26
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                  (Eptatretus
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2.2e+05;
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Result
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Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scoring table:
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   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seq length: 0 seq length: 10
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2: pir2:*
3: pir3:*
4: pir4:*
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 PIR_68:*
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58
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   DB
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X61033

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59.933 Million cell updates/sec
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gonadoliberin II -
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peptide-N4-(N-acet
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trypsin-modulating
Ig heavy chain CRD
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                hypothetical prote glutathione S-tran
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serum amyloid P-co
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cytochrome P450 1A
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| | | | | | _ | RESULT |
|--------------------|------------|---|--------------|------|----|--------|
| | ALIGNMENTS | | | | | |
| angiotensin precur | A90917 | N | 10 | 24.1 | 14 | 45 |
| endo-glucosylceram | A39745 | N | 10 | 24.1 | 14 | 44 |
| angiotensin I - Ja | A60624 | N | 10 | 24.1 | 14 | 43 |
| cytochrome-c oxida | S65388 | 2 | 10 | 24.1 | 14 | 42 |
| exotoxin A - Strep | A60108 | 2 | 9 | 24.1 | 14 | 41 |
| probable minipolyp | B45020 | 2 | 9 | 24.1 | 14 | 40 |
| lectin - potato (f | S21288 | N | 8 | 24.1 | 14 | 39 |
| major fat-globule | В48394 | N | 7 | 24.1 | 14 | 38 |
| major protein anti | B60274 | N | 5 | 24.1 | 14 | 37 |
| cytochrome-c oxida | S77990 | N | 10 | 25.9 | 15 | 36 |
| angiotensin I - ho | S65432 | N | 10 | 25.9 | 15 | 35 |
| triacylglycerol | PX0030 | N | 10 | 25.9 | 15 | 34 |
| sphingomyelinase - | C39745 | N | 10 | 25.9 | 15 | 33 |
| enamelin i - bovin | S10784 | N | 9 | 25.9 | 15 | 32 |
| neutral proteinase | A35180 | N | ω | 25.9 | 15 | 31 |
| Ig gamma chain C | PT0368 | 2 | & | 25.9 | 15 | 30 |

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C;Accession: S68033
R;Ueng, Y.F; Ueng, T.H.
Arch. Biochem. Blophys. 322, 347-356, 1995
A;Title: Induction and purification of cytochrome P450 1A1 from 3-methylcholanthrene-
A;Title: Induction and purification of cytochrome P450 1A1 from 3-methylcholanthrene-
A;Reference number: S68033; MUID:96032654
                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
S68033
                                                                                                                                                                                                                                                                                                                                            cytochrome P450 1A1 - tilapia (fragment)
C;Species: Oreochromis niloticus x Oreochromis aureus (tilapia)
C;Date: 19-Mar:1997 #sequence_revision 29-Aug-1997 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Thehes 5; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      halo-toxin - Pseudomonas syringae pv. mori
C;Species: Pseudomonas syringae pv. mori
A;Note: host mulberry tree
C;Date: 10-Mar-1994 #sequence_revision 10-Mar-1994 #text_change 21-Jan-1997
δÃ
                                                                                                                                                    A; Molecule type: protein
A; Residues: 1-10 <UEN>
A; Experimental source: liver and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
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A; Accession: A61049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       R; Kajimoto, T.; Yokomizo, K.;
Chem. Lett. 00, 679-680, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C; Comment: This to
C; Keywords: toxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Note: sequence confirmed by synthesis C_i: Comment: This toxin is one of the etiological agents of halo bright disease in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: protein A; Residues: 1-6 < KAJ>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Title: Structure of halo-toxin produced by phytopathogenic bacterium, Pseudomonas s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C; Accession: A61049
                                                                                                                                                                                                                     A; Accession: S68033
                                            Matches
                                                                                     Query Match
                                                                   Best
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|||||:
1 PFPGPI 6
                                                                 Local Similarity
  2 LMPFPGPL 9
                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60.3%;
83.3%;
                                                                 39.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Yahiro, K.; Umeda, T.; Shoji, S.; Kubota, Y.; Shibata,
                                                                                                                                               gill
                                            2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 35; DB 2;
Pred. No. 2.2e+05;
                                                                 Score 23; DB 2;
Pred. No. 3.3e+02;
                                               Mismatches
                                                                                       Length 10;
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1 ILPFIGAL

COMPUTER READABLE FORM:

19103

COUNTRY:

USA

PΑ

STREET: One Liberty Place - 46th Floor CITY: Philadelphia

MEDIUM TYPE:

DISKETTE, 3.5 INCH, 1.44 Mb STORAGE

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Query Match
Best Local Similarity
Thes 3; Conserve
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; DESCRIPTION:
PCT-US93-08436-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 190,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: Dianne B. Elderkin
REGISTRATION NUMBER: 28,598
REFERENCE/DOCKET NUMBER: CCOR
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 9 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                            TITLE OF INVENTION: Peptides and Compounds That Bind
TITLE OF INVENTION: Selectins Including Endothelial Leukocyte Adhesion
TITLE OF INVENTION: Molecule I (ELAM-1)
NUMBER OF SEQUENCES: 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION DATA:
APPLICATION NUMBER: PC:
FILING DATE: Herewith
                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                          APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                            STREET: 4001 Miranda Ave. CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PS/2
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.0
                                                                                                          COUNTRY:
                                                                                                                                                                             ADDRESSEE: Affymax Technologies, NV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5 CWTW 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                 NO.
                                                                                           94304
                                                                                                                          California
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Application US/08439817
                                                                                                          USA
                                                                                                                                                                                                                                                                                    Lee, Jung
Martens, Christine L.
Ruhland-Fritsch, Beatrice
                                                                                                                                                                                                                                                                                                                                       Cwirla, Steven E.
Dower, William J.
Koller, Kerry J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                            Barrett, Ronald W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cyclic structure involving cyclization between Cys(2) and Cys(5); Amide terminated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         42.9%;
75.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PCT/US93/08436
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Pred. No. 1.5e+05;
0; Mismatches 1
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Search completed: October 23, 2001, 13:29:22 Job time: 390 sec

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                                                                                                                                                                      NAME/KEY: Region LOCATION: one-of(5); OTHER INFORMATION: US-08-439-817-190
                                                                       Query Match 41.1%;
Best Local Similarity 60.0%;
Matches 3; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION: 530

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/241,054
FILING DATE: 11-MAY-1994

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/057,295
FILING DATE: 05-MAY-1993

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/881,395
FILING DATE: 06-MAY-1992
ATTORNEY/AGENT INFORMATION:
ANABLE: CREWING TANKER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 415-424-0832
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                         ID NO.

ACCTERISTICS:

AYPE: amino acid

STRANDEDNESS:

TOPOLOGY:

TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 36,691
REFERENCE/DOCKET NUMBER: 000
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-496-2300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA: APPLICATION NUMBER: US.
                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                                                                                   EATURE:
                                                                                                                                                                                                                                                                   NAME/KEY: Region LOCATION: one-of(1) OTHER INFORMATION: /
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1 ITWDQ 5
                                    2 MTWNQ 6
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12-MAY-1995
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                                                                                           Score 23; DB 1;
Pred. No. 1.5e+05;
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                                                                             Mismatches
                                                                                                               Length 5;
                                                                           Indels
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; DESCRIPTION:
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PCT-US93-08436-9
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Best Local S
Matches 3
 Matches
          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 9, Application:
                                                                                                                                                                                                REGISTRATION NUMBER: 28,598
REFERENCE/DOCKET NUMBER: CCC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
TELEFAX: (215) 568-3439
INFORMATION FOR SEQ ID NO: 9:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS
LENGTH: 9 amino acids
                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: WORDPERFECT 5.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/08436
FILING DATE: Herewith
                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Dianne B. Elderkin
                                                                                                               TOPOLOGY: u
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: George A. Heavner, et al.
TITLE OF INVENTION: Peptide Inhibitors of Cellular
TITLE OF INVENTION: Adhesion
NUMBER OF SEQUENCES: 19
                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
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                                                                                                                                                           TYPE:
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                                                                                                                                          STRANDEDNESS
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                                                                                                                                                                                                                                                                                                                                                                                                                                  OPERATING SYSTEM:
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                                                                                                                                                                       LENGTH:
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3; Conservative
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                                                                                  Cyclic structure involving cyclization between Cys(1) and Cys(5); Amide terminated.
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j 568-3439
-- NO: 9:
             42.9%;
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75.0%;
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 0
            Score 24;
Pred. No.
   Mismatches
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               .5e+05;
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PCT-US93-08436-15
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ATTORNEY/AGENT INFORMATION:
NAME: Dianne B. Elderkin
REGISTRATION NUMBER: 28,598
REFERENCE/DOCKET NUMBER: CCOR
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
TELECAX: (215) 568-349
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
                                                                                                                        Sequence 15, Application PC/TUS9308436 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
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                                                                                                                                                                                                                                                                                                        Matches
                                                    TITLE OF INVENTION: Peptide TITLE OF INVENTION: Adhesion NUMBER OF SEQUENCES: 19
                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE:
DESCRIPTION:
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MEDIUM TYPE: DISKETT
COMPUTER: IBM PS/2
OPERATING SYSTEM: PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: George A. Heavner, et al. TITLE OF INVENTION: Peptide Inhibito TITLE OF INVENTION: Adhesion NUMBER OF SEQUENCES: 19
                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
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CTTY: Philadelphia
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nes 3; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & ADDRESSEE: Norris
 ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                 DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: U
                                                                                                                                                                                                                                   6 CWTW
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                                                                                                                                                                                                                                                                                                        Conservative
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                                                                                    George A. Heavner, et al.

ENTION: Peptide Inhibitors of Cellular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown
Woodcock Washburn Kurtz Mackiewicz Norris
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3.5 INCH, 1.44 Mb STORAGE
                                                                                                                                                                                                                                                                                                      Score 24; DB
Pred. No. 1.5e
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                        Length 9;
                                                                                                                                                                                                                                                                                                        Indels
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PRIOR APPLICATION DATA:

CLASSIFICATION:

APPLICATION NUMBER: US/0: FILING DATE: 07-MAR-1995

US/08/397,101

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; OTHER INFORMATION:
; OTHER INFORMATION:
US-08-397-101-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-397-101-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 10, Application US/08397101 Patent No. 5753617 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
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Best Local !
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                                                                  PRIOR APPLICATION DATA:
                                                                                                                                          COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDDERFECT 5.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb
MEDIUM TYPE: STORAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Dianne B. Elderkin
REGISTRATION NUMBER: 28,598
REFERENCE/DOCKET NUMBER: CC
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: peptide
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FILING DATE: 08-SEP-1993
ATTORNEY/AGENT INFORMATION:
                  PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Heavner, George A.
APPLICANT: Kruszynski, Marian
APPLICANT: Falcone, Margaret |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 9 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Peptide Inhibitors of INVENTION: Cellular Adhesion
                                                                                                                                                                                                                                                                                                                                                                                                                       TUMBER OF SEQUENCES:
                                APPLICATION NUMBER: US 07/941,653 FILING DATE: 08-SEP-1992
                                                                                       APPLICATION NUMBER: US/01
FILING DATE: 07-MAR-1995
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                              STREET: One Libert
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nes 3; Conserv
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ADDRESSEE: Mackiewicz & No. 5753617ris
STREET: One Liberty Place - 46th Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: FILING DATE: 08-SE
APPLICATION NUMBER:
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75.0%;
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                                                                                                                           US/08/397,101
PCT/US93/08504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PCT/US93/08504
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Pred. No. 1.5e+05;
0; Mismatches 1;
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; OTHER INFORMATION: Cyclic structure involving ; OTHER INFORMATION: cyclization between Cys(3) and Cys(6); Amide ; OTHER INFORMATION: terminated.
US-08-397-101-10
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US-08-397-101-15
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Best Local Similarity
Matches 3; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 15,
                                APPLICATION NUMBER: US 07/941,653
FILING DATE: 08-SEP-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/08504
FILING DATE: 08-SEP-1993
ATTORNEY/AGENT INFORMATION:
NAME: Dianne B. Elderkin
REGISTRATION NUMBER: 28,598
REFERENCE/DOCKET NUMBER: CCOR-0139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Heavne
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                                                                                                                                                                                                                                                                        OPERATING SYSTEM: PC-DOS
SOFTWARE: WORDPERFECT 5.0
CURRENT APPLICATION DATA:
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MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb
MEDIUM TYPE: STORAGE
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
                                                                                                                                                                                              FILING DATE: 07-MAR-CLASSIFICATION: 514
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
TELECOMMUNICATION INFORMATION: TELEPHONE: (215) 568-3100
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
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                                                                                                                                                                                                                                                           APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: One Liberty CITY: Philadelphia
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                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Woodcock Washburn Kurtz
ADDRESSEE: Mackiewicz & No. 575361
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TOPOLOGY: un
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5753617
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One Liberty Place - 46th Floor
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NVENTION: Peptide Inhibitors of
NVENTION: Cellular Adhesion
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kruszynski, Marian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
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                                                                                                                                                                                                                                        07-MAR-1995
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75.0%;
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                                     CCOR-0139
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Pred. No. 1.5e+05
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RESULT 8
PCT-US93-08436-16
; Sequence 16, Application PC/TUS9308436
; GENERAL INFORMATION:
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Best Local Similarity 75.0
Matches 3; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 514

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/941,653

FILING DATE: 08-SEP-1992

PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/08504

FILING DATE: 08-SEP-1993

ATTORNEY/AGENT INFORMATION:
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NFORMATION FOR SEQ ID NO:
                          APPLICANT: George A. Heavner, et al.
TITLE OF INVENTION: Peptide Inhibitors of Cellular
TITLE OF INVENTION: Adhesion
NUMBER OF SEQUENCES: 19
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LENGTH: 8 amino acids
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MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 Mb
MEDIUM TYPE: STORAGE
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS
CORRESRONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION: TELEPHONE: (215) 568-3100
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TITLE OF INVENTION:
NUMBER OF SEQUENCES:
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APPLICANT: Falcone, Margaret L.
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OTHER INFORMATION:
OTHER INFORMATION:
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CITY: Philadelphia
STATE: PA
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TOPOLOGY: un
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ADDRESSEE: Mackiewicz & No. 5753617ris
STREET: One Liberty Place - 46th Floor
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Cellular Adhesion
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75.0%;
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Pred. No.
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1.5e+05;
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CURRENT APPLICATION DATA:

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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY AGENT INFORMATION:
NAME: Dianne B. Elderkin
REGISTRATION NUMBER: 28,598
REFERENCE/DOCKET NUMBER: CCOR
TELECOMMUNICATION INFORMATION:
TELEPHONE: (215) 568-3100
                                           ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: DISKETTE,
MEDIUM TYPE: STORAGE
                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
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APPLICANT: Falcone, Margaret L.
TITLE OF INVENTION: Peptide Inhibitors of
TITLE OF INVENTION: Cellular Adhesion
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DESCRIPTION:
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COMPUTER: IBM PC Compatible OPERATING SYSTEM: PC-DOS SOFTWARE: WORDPERFECT 5.0
                                                                                                                                                 ADDRESSEE: Woodcock Washburn Kurtz
ADDRESSEE: Mackiewicz & No. 575361'
STREET: One Liberty Place - 46th F.
CITY: Philadelphia
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OPERATING SYSTEM:
                                                                                                                                     STATE:
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ADDRESSEE: Norris
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75.0%;
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                                                                  3.5 INCH,
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Pred. No. 1.5e
0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 8;
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RESULT 6
US-08-439-817-191
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Best Local Similarity
Thes 3; Conserve
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                                                                                                                                                                                                                                                            ; NAME/KEY: Region
; LOCATION: one-of(6)
; OTHER INFORMATION:
US-08-439-817-194
Sequence 191, Application US/08439817 Patent No. 5728802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 08/241,054
FILING DATE: 11-MAY-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/057,295
FILING DATE: 05-MAY-1993
PRIOR APPLICATION UNMBER: US 07/881,395
APPLICATION NUMBER: US 07/881,395
FILING DATE: 06-MAY-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: 415-424-0832
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 36,691
REFERENCE/DOCKET NUMBER: 00
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-496-2300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 06-MAY-1992
ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: Peptides and Compounds That Bind
TITLE OF INVENTION: Selectins Including Endothelial Leukocyte Adhesion
TITLE OF INVENTION: Molecule I (ELAM-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                           LOCATION: one-of(1)
OTHER INFORMATION: /note= "N-termina
OTHER INFORMATION: benzyloxycarboyl.
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STRANDEDNESS: sir
TOPOLOGY: linear
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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1 ITWDQL 6
                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: Region
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                                                                                                                                       2 MTWNQM 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                    peptide
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50.0%;
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                                                                                                                                                                                         Score 25; DB 1;
Pred. No. 1.5e+05;
                                                                                                                                                                           Mismatches
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                                              Query Match
Best Local Similarity
"hes 3; Conserva
                                                                                                                                      ; FEATURE:
; NAME/KEY: Region
; LOCATION: one-of(6)
; OTHER INFORMATION:
US-08-439-817-191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PILING DATE: 11-MAY-1994

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/057,295
FILING DATE: 05-MAY-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/881,395
FILING DATE: 06-MAY-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 415-424-0832
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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SOFTWARE: PATERILL DATA:
CURRENT APPLICATION NUMBER: US/08
APPLICATION IZ-MAY-1995
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TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION: TELEPHONE: 415-496-2300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
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                                                                                                                                                                                                                LOCATION: one-of(1)
OTHER INFORMATION: /
OTHER INFORMATION: k
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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CITY: Palo Alto
STATE: California
                                                                                                                                                                                                                                                                                                            TYPE: amino acid
STRANDEDNESS: sir
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 36, REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US 0 FILING DATE: 11-MAY-1994
                                                                                                                                                                                                                                                                NAME/KEY:
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                              3 TWNQM 7
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 TWDQL
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                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PatentIn Release #1.0, Version #1.25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cwirla, Steven E. Dower, William J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Barrett, Ronald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Koller, Kerry J.
                                                                                                                                                                                                                                                             Region
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                                                                                                                                                                                                                                                                                            peptide
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                                                                           42.9%;
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benzyloxycarboyl."
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                                                                          Score 24; DB 1;
Pred. No. 1.5e+05;
                                                             Mismatches
                                                               0;
                                                                                          Length 6;
                                                               Indels
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RESULT

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US-08-487-006-147; Sequence 147, Application US/08487006; Patent No. 5641861
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Best Local Similarity
Watches 3; Conserv.
                                                                               US-08-487-006-147
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                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/08/487,00
FILING DATE: 07-JUN-1995
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Campbell, Cathryn A.
REGISTRATION NUMBER: 31,815
REFERENCE/DOCKET NUMBER: P-TP
TELECOMMUNICATION INFORMATION:
TELEPHONE: (619) 535-9049
INFORMATION FOR SEQ ID NO: 147:
   Matches
                Query Match
Best Local Similarity
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ORGANISM: Artificial Sequence
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Dooley, Colette T.
APPLICANT: Houghten, Richard A.
TITLE OF INVENTION: No. 5641861el Mu Opioid Receptor Ligands:
TITLE OF INVENTION: Agonists and Antagonists
NUMBER OF SEQUENCES: 222
                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 6 amino acids
                                                                                                                                                          FEATURE:
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                                                                                                                         NAME/KEY:
LOCATION:
                                                                                                                                                                     OTHER INFORMATION:
OTHER INFORMATION:
                                                                                          OTHER INFORMATION:
OTHER INFORMATION:
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STATE: California
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ZIP: 92122
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   Conservative
                                                                                                                                        Peptide
                                                                                                                                                                                                                                                                   linear
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              46.4%;
80.0%;
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37.5%;
                                                                                                                                                                     /note= "With the exception of Gly at position 5, all the amino acids acids."
                                                                                          /note= "Amino acid is amidated
the C-terminal."
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0;
              Score 26;
Pred. No.
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Pred. No. 1
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   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                           1706
                DB 1;
1.5e+05;
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1.5e+05;
                              Length 6;
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Indels
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Query Match
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                                                                                                                                                                                              RESULT
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US-08-488-659A-147
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FILING DATE: 07-JUN-1995
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Campbell, Cathryn A.
REGISTRATION NUMBER: 31,815
REFERENCE/DOCKET NUMBER: P-TP 1705
REFERENCE/DOCKET NUMBER: 0-TP 1705
REFERENCE/DOCKET NUMBER: 9-TP 1705
REFERENCE/DOCKET NUMBER: 9-TP 1705
REFERENCE/DOCKET NUMBER: 0-TP 1705
REFERENCE/DOCKET NUMBER: 0-T
Sequence 194, Application US/08439817
Patent No. 5728802
GENERAL INFORMATION:
APPLICANT: Barrett, Ronald W.
APPLICANT: Cwirla, Steven E.
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APPLICANT: Dooley, Co
APPLICANT: Houghten,
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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CITY: San Diego
CTATE: California
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TITLE OF INVENTION: Agonists and Anthony
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 6 amino acids
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MEDIUM TYPE: Floppy
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4370 La Jolla Village Drive, Suite
                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note= "With the exception of Gly at position 5, all the amino acids acids."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "Amino acid is amidated
the C-terminal."
                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 26;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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1.5e+05;
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Result
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Title:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Run on:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum DB
Maximum DB
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq
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1: /cgn2_6/ptodata/2,

2: /cgn2_6/ptodata/2,

3: /cgn2_6/ptodata/2,

4: /cgn2_6/ptodata/2,

5: /cgn2_6/ptodata/2,

6: /cgn2_6/ptodata/2,
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56
1 CMTWNQMNL 9
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Maximum Match 100%
Listing first 45 summaries
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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US-09-258-754-64
US-09-42-107-64
US-08-487-006-147
US-08-487-006-147
US-08-493-817-194
US-08-397-101-16
PCT-US93-08436-16
US-08-397-101-9
US-08-397-101-9
US-08-397-101-19
PCT-US93-08436-15
US-08-397-101-19
US-08-397-101-19
US-08-397-111-19
US-08-397-111-19
US-08-397-111-19
US-08-439-817-199
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                  Sequence 64, Appl Sequence 147, App Sequence 191, App Sequence 191, App Sequence 116, Appl Sequence 16, Appl Sequence 17, Appl Sequence 17, Appl Sequence 17, Appl Sequence 19, Appl Sequence 19, Appl Sequence 195, Appl Sequence 195, Appl Sequence 197, Appl Sequence 198, Appl Sequence 199, App Sequence 199, App Sequence 199, App Sequence 199, App Sequence 149, Appl Sequence
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| | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | ω ω | 32 | 31 | 30 | 29 | 28 | |
|------------|---------------------|---------------------|-------------------|--------------------|---------------------|---------------------|---------------------|----------------------|----------------------|---------------------|---------------------|--------------------|--------------------|----------------------|-------------------|--------------------|---------------------|---------------------|--|
| | 21 | 21 | 21 | 21 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | |
| | 37.5 | 37.5 | 37.5 | 37.5 | 39.3 | 39.3 | 39.3 | 39.3 | 39.3 | 39.3 | 39.3 | 41.1 | 41.1 | 41.1 | 41.1 | 41.1 | 41.1 | 41.1 | |
| | 6 | 6 | 6 | 4 | 9 | 9 | 80 | 6 | 6 | 6 | о | 9 | 9 | 9 | 9 | 9 | 9 | 8 | |
| ALIGNMENTS | 1 US-08-487-006-131 | 1 US-08-487-006-130 | 1 US-08-487-006-7 | 6 5171684-24 | 4 US-09-042-107-339 | 4 US-09-258-754-339 | 4 US-08-444-818-448 | 2 US-08-488-659A-144 | 2 US-08-488-659A-143 | 1 US-08-487-006-144 | 1 US-08-487-006-143 | 6 5426100-11 | 6 5426100-10 | 3 US-08-159-339A-980 | | 2 US-08-488-273-10 | 1 US-07-646-531D-10 | 4 US-08-444-818-447 | |
| | Sequence 131, App | Sequence 130, App | Sequence 7, Appli | Patent No. 5171684 | Sequence 339, App | Sequence 339, App | Seguence 448, App | Sequence 144, App | Sequence 143, App | Sequence 144, App | Sequence 143, App | Patent No. 5426100 | Patent No. 5426100 | Sequence 980, App | Sequence 75, Appl | | Sequence 10, Appl | Sequence 447, App | |

В PEATURE: OTHER INFORMATION: Description of Artificial Sequence: Synthetic US-09-258-754-64 US-09-042-107-64 RESULT 1 US-09-258-754-64 GENERAL INFORMATION: APPLICANT: Ruoslahti, Erkki APPLICANT: Pasqualini, Renata APPLICANT: Pasqualini, Renata APPLICANT: Rajotte, Daniel ITITLE OF INVENTION: Methods of Identifying Lung Homing Molecules Using ITITLE OF INVENTION: Membrane Dipeptidase FILE REFERENCE: P-LJ 3443 CURRENT APPLICATION NUMBER: US/09/258,754 CURRENT APPLICATION NUMBER: US/09/258,754 EARLIER APPLICATION NUMBER: 09/042,107 EARLIER FILING DATE: 1998-03-13 NUMBER OF SEQ ID NOS: 452 COMMENDER: Details Vor. 2 0 Sequence 64, Application US/09042107 Patent No. 6232287 GENERAL INFORMATION: SOFTWARE: PatentIn Ver. 2.0 SEQ ID NO 64 LENGTH: 9 Sequence 64, Application US/09258754 Patent No. 6174687 Patent No. Matches Query Match Best Local Similarity APPLICANT: Ruoslahti, Erkki APPLICANT: Pasqualini, Renata TITLE OF INVENTION: Molecules that Home to Various Selected Organs TITLE OF INVENTION: Tissues TITLE OF INVENTION: Tissues CURRENT APPLICATION NUMBER: US/09/042,107 CURRENT FILING DATE: 1998-03-13 NUMBER OF SEQ ID NOS: 436 SOFTWARE: Patentin Ver. 2.0 TYPE: PRT ORGANISM: Artificial Sequence 1 CMTWNQMN 8 1 CMSWDAVS 8 Conservative 50.0%; 37.5%; Score 28; DB 4; Pred. No. 1.5e+05; Mismatches Length 9; 0; Gaps or P

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RESULT 15
US-09-922-227-8
; Sequence 8, Application US/09922227
; GENERAL INFORMATION:
GAPPLICANT: Ruoslahti, Erkki
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION NUMBER: US 60/171,312
PRIOR FILING DATE: 1999-12-21
NUMBER OF SEQ ID NOS: 6899
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 5244
LENGTH: 8
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 80.0
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: Inducing Cellular Immune Responses to TITLE OF INVENTION: Prostate Cancer Antigens Using Peptide and Nucleic Acid TITLE OF INVENTION: Compositions FILE REFERENCE: 018623-014710US CURRENT APPLICATION NUMBER: US/09/633,364 CURRENT FILING DATE: 2000-08-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                   TELEFAX: (619) 535-8949 INFORMATION FOR SEQ ID NO: 8: SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/922,227
FILING DATE: 02-Aug-2001
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
                                                                               REFERENCE/DOCKET NUMBER: P-LJ 4859
TELECOMMUNICATION INFORMATION:
TELEPHONE: (619) 535-9001
                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: Campbell, Cathryn A.
REGISTRATION NUMBER: 31,815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: Campbell & Flores LLP
STREET: 4370 La Jolla Village Drive, Suite 700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pasqualini, Renata
TITLE OF INVENTION: Method of Identifying Molecules That
Home to a Selected Organ In Vivo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: PatentIn Release #1.0,
                                                                                                                                                                                                           APPLICATION NUMBER: US 08/813,273
FILING DATE: 10-MAR-1997
APPLICATION NUMBER: US 08/862,855
FILING DATE: 23-MAY-1997
APPLICATION NUMBER: US 09/227,906
FILING DATE: 08-JAN-1999
                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 08/526,710 FILING DATE: 11-SEP-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: San Diego
ENGTH: 8 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    United States
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1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Version #1.25
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Search completed: October 23, Job time: 145 sec
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                                                                                          Q
                                                                                                                                                                                      ; MOLECULE TYPE: peptide
; SEQUENCE DESCRIPTION: SEQ ID NO: 8:
US-09-922-227-8
                                                                                                               Query Match

Best Local Similarity 28.6

Matches 2; Conservative
                                                                  1 CLDWGRI 7
                                                                                             1 CMTWNQM 7
                                                                                                                                                                                                                              TOPOLOGY: linear
                                                                                                                                  41.1%; 28.6%;
             2001, 13:30:23
                                                                                                                       ω
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                                                                                                                                  Score 23; DB 5; Length 8; Pred. No. 2.9e+05;
                                                                                                                      Mismatches
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Query Match
Best Local Similarity
""trhes 3; Conserv:
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; OTHER INFORMATION:
US-09-832-723-108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
5; Conserv
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US-09-938-864-286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/832,723
CURRENT FILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: US 60/197,259
PRIOR FILING DATE: 2000-04-14
NUMBER OF SEQ ID NOS: 117
SOFTWARE: PastSEQ for Windows Version 4.0
SEQ ID NO 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 286
LENGTH: 9
LENGTH: 9
LENGTH: 9
                                                                                                       Sequence 109, Application US/09832723 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 108, Application US/09832723 GENERAL INFORMATION:
APPLICANT: MUTTAY, Christopher J.
APPLICANT: Tijerina, Pilar
TITLE OF INVENTION: METHODS FOR SELECTIVE TARGETING
FILE REFERENCE: GC617-2
                                                                   APPLICANT: Estell, David A. APPLICANT: Chen, Yiyou
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Tijerina, Pilar
TITLE OF INVENTION: METHODS FOR SELECTIVE TARGETING
FILE REFERENCE: GC617-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Estell, David APPLICANT: Chen, Yiyou
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                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Artificial Sequence
                                                                                                                                                                                                                  1 CAPWN 5
                                                                                                                                                                                                                                                    1 CMTWN 5
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Spies, A. Gregory
Boydston, Jeremy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sleath, Paul R
Mossman, Sally
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                                                                                                                                                                                                                                                                                                                                                                                               peptides screened from a phage display random peptide library
                                                                                                                                                                                                                                                                                                        42.9%;
60.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         46.4%; Score 26;
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                     Score 24; DB
Pred. No. 2.9e
0; Mismatches
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                                                                                                                                                                                                                                                                                                      DB 5;
2.9e+05;
                                                                                                                                                                                                                                                                                                                     Length 9;
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US-09-633-364-5244
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Best Local Similarity
Thes 4; Conserv
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Best Local Similarity
"~+~hes 3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: peptides screened ; OTHER INFORMATION: peptide library US-09-832-723-109
                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-633-364-4214
                                                                                        Sequence 5244, Application US/09633364
GENERAL INFORMATION:
APPLICANT: Fikes, John
                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4214
LENGTH: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: FASTSEQ for Windows Version 4.0
SEO ID NO 109
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 4214, Application US/09633364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Epinmune Inc.
TITLE OF INVENTION: Inducing Cellular Immune Responses to
TITLE OF INVENTION: Prostate Cancer Antigens Using Peptide and Nucleic Acid
TITLE OF INVENTION: Compositions
TITLE REFERENCE: 018623-014710US
CURRENT APPLICATION NUMBER: US/09/633,364
CURRENT FILING DATE: 2000-08-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/832,723
CURRENT FILING DATE: 2001-04-11
PRIOR APPLICATION NUMBER: US 60/197,259
PRIOR FILING DATE: 2000-04-14
                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 60/171,312 PRIOR FILING DATE: 1999-12-21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
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                                               APPLICANT:
                                                              APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
                                                                                                                                                                                                             2 CMTTN 6
                                                                                                                                                                                                                                            1 CMTWN 5
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Sidney, Jon..
Southwood, Scott
Chesnut, Robert
Celis, Esteban
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Celis, Esteban
Keogh, Elissa
                                                                          Sette, Alessandro
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                                                                                                                                                                                                                                                                            Conservative
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                                                                                                                                                                                                                                                                                                                                                                         sapien
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                                                                                                                                                                                                                                                                                          41.1%;
80.0%;
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60.0%;
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                                                                                                                                                                                                                                                                                          Score 23;
Pred. No.
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Pred. No.
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                                                                                                                                                                                                                                                                                          DB 5;
2.9e+05;
                                                                                                                                                                                                                                                                                                         Length 8;
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APPLICANT: Evans, Lawrence
APPLICANT: Spies, A. Gregory
APPLICANT: Spies, A. Gregory
APPLICANT: Spies, A. Gregory
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121, 465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTMARE: FastSEQ for Windows Version 3.0
SEQ ID NO 305
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Best Local Similarity
"hes 6; Conserva
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; ORGANISM: Homo sapien
US-09-938-864-245
                                                                                                                                  US-09-938-864-234
                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT ; ORGANISM: Mus musculus US-09-938-864-305
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                                                             Sequence 234, Application US/0938864
GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: McNeill, Patricia D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: McNeill, Patrick
APPLICANT: Smithgall, Molly
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TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 245
LENGTH: 9
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Best Local Similarity
Matches 6; Conserv
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APPLICANT:
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1 WNQMNL 6
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Vedvick, Thomas S.
Sleath, Paul R.
Mossman, Sally
Moulton, Gus
Vedvick, Thomas S.
Sleath, Paul R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Boydston, Jeremy
                                               Smithgall, Molly
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Smithgall, Molly
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                                                                                                                                                                                                                                                                                66.1%;
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Pred. No.
                                                                                                                                                                                                                                                                                Score 37;
Pred. No.
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                                                                                                                                                                                                                                                                                               DB 5;
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2.9e+05;
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APPLICANT: Evans, Lawrence
APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeregory
APPLICANT: Boydston, Jeregory
ITILE OF INVENTION: COMPOSITIONS AND METHODS FO:
ITILE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 234
LENGTH: 9
TYPE: PRT
                                                                                                                               US-09-938-864-286
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Best Local Similarity
""" hes 5; Conserva
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; TYPE: PRT
; ORGANISM: Homo sapien
US-09-938-864-151
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                                                                                      Sequence 286, Application US/09938864 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 151
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Best Local Similarity
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APPLICANT: Gaiger, Alexander APPLICANT: McNeill, Patricia D. APPLICANT: Smithgall, Molly APPLICANT: Moulton, Gus APPLICANT: Vedvick, Thomas S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Evans, Lawrence
APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
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Vedvick, Thomas S.
Sleath, Paul R.
Mossman, Sally
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                                                                                                                                                                                                                                                                          46.4%; Score 26; DB
100.0%; Pred. No. 2.
tive 0; Mismatches
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100.0%; Pred. No. 2.9e+05;
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2.nas 0; Indels
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                                                                                                                                                                                                                                                                                                            Length 9;
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APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 258
LENGTH: 9
TYPE: PRT
ORGANISM: Mus musculus
US-09-938-864-258
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                                                                                                                          Sequence 278, Application US/09938864 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                Query Match
Best Local
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Best Local Similarity
Matches '9; Conserv
                                                                                                                                                                                                                                                                                   Matches
                                                           APPLICANT: Gaiger, Alexander
APPLICANT: McNeill, Patricia D.
APPLICANT: Smithgall, Molly
APPLICANT: Moulton, Gus
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
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                             APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
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Mossman, Sally
Evans, Lawrence
                          Moulton, Gus
Vedvick, Thomas S.
Sleath, Paul R.
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Vedvick, Thomas S.
Sleath, Paul R.
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                Sally
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100.0%; Pred. No. 2.1
tive 0; Mismatches
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Pred. No. 2.9e+05;
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US-09-938-864-245
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                                                   Sequence 245, Application US/0938864
GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: McWeill, Patricia D.
APPLICANT: Smithgall, Molly
APPLICANT: Smithgall, Molly
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APPLICANT:
APPLICANT:
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Best Local Similarity
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         Moulton, Gus
Vedvick, Thomas S.
Sleath, Paul R.
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SOFTWARE: FASTSEQ for Windows Version 3.0; SEQ ID NO 278; LENGTH: 9
TYPE: PRT
ORCANISM: Mus musculus
US-09-938-864-278
                                                                                                                         CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 167
LENGTH: 9
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
                                                                                                                                                                                                                                                     TITLE OF INVENTION: COMPOSITIONS AND METHODS TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY FILE REFERENCE: 210121.465C5
                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Gaiger, Alexander APPLICANT: McNeill, Patrici
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
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Spies, A. Gregory
Boydston, Jeremy
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Vedvick, Thomas S.
Sleath, Paul R.
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               73.2%; Score 41; DB 5; L
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1: /ggn2_6/ptodata/2/paa/PCT_NEW_COMB.pep:*

2: /cgn2_6/ptodata/2/paa/US06_NEW_COMB.pep:*

3: /cgn2_6/ptodata/2/paa/US07_NEW_COMB.pep:*

4: /cgn2_6/ptodata/2/paa/US08_NEW_COMB.pep:*

5: /cgn2_6/ptodata/2/paa/US09_NEW_COMB.pep:*

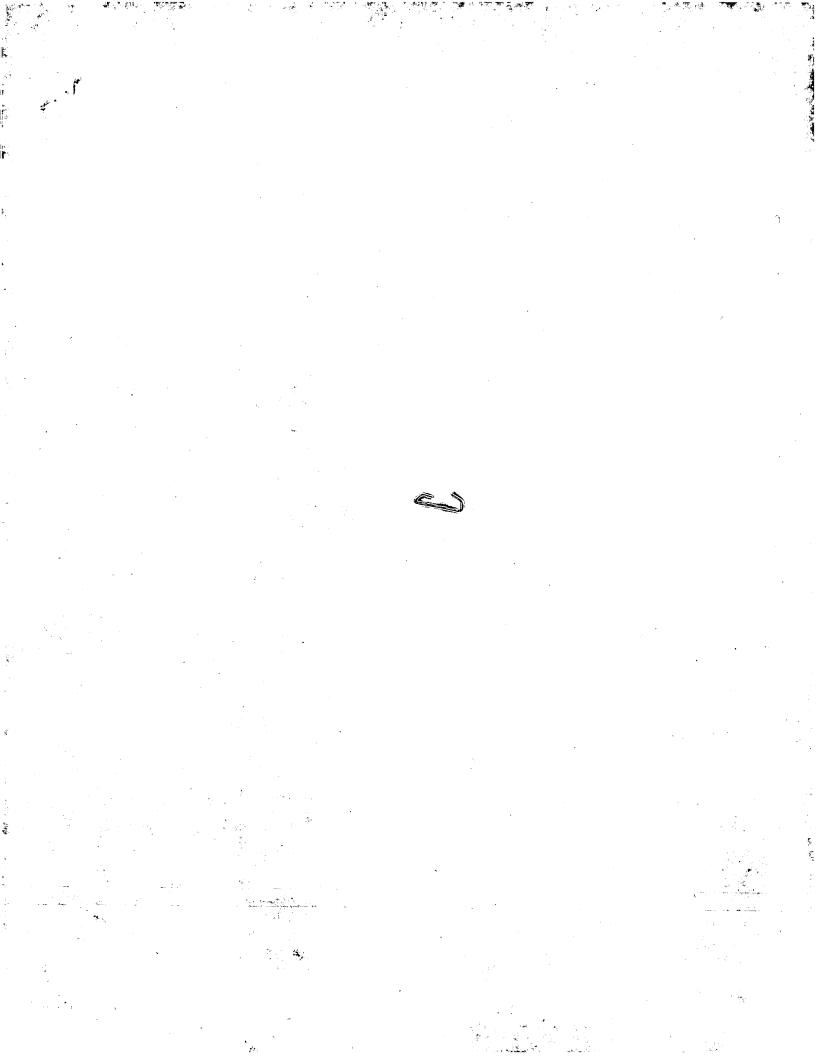
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                    5 US-09-938-864-49
US-09-938-864-131
US-09-938-864-131
US-09-938-864-278
US-09-938-864-245
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US-09-938-864-286
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US-09-938-864-286
US-09-938-2723-109
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US-09-793-798-20
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17.233 Million cell updates/sec
Sequence 49, Appl Sequence 258, App Sequence 278, App Sequence 245, App Sequence 245, App Sequence 245, App Sequence 286, App Sequence 151, App Sequence 108, App Sequence 109, App Sequence 87, Appli Sequence 87, Appli Sequence 4214, App Sequence 471, App Sequence 477, App Sequence 252, App Sequence 251, App Sequence 262, App Sequence 261, App Sequence 261, App Sequence 20, App Sequence 20, App Sequence 20, App Sequence 20, App Sequence 27, App Sequence
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| 28 21 37.5 8 5 US-09-548-9368-5 29 21 37.5 9 5 US-09-786-214-42 30 21 37.5 9 5 US-09-786-889A-42 31 21 37.5 9 5 US-09-839-542-2741 32 21 37.5 9 5 US-09-839-542-2741 33 21 37.5 9 5 US-09-839-90-22 34 21 37.5 9 5 US-09-838-990-22 35.7 6 5 US-09-620-978-569 36 20 35.7 6 5 US-09-602-025A-392 37 20 35.7 6 5 US-09-602-025A-392 38 20 35.7 6 5 US-09-602-025A-392 39 20 35.7 6 5 US-09-602-025A-392 39 20 35.7 6 5 US-09-602-025A-392 40 20 35.7 6 5 US-09-602-025A-569 41 20 35.7 6 5 US-09-637-563A-569 42 20 35.7 6 5 US-09-637-563A-569 43 20 35.7 6 5 US-09-637-563A-569 44 20 35.7 6 5 US-09-647-597A-569 45 20 35.7 6 5 US-09-647-597A-569 46 20 35.7 6 5 US-09-647-597A-569 47 20 35.7 6 5 US-09-647-597A-569 | 21 37.5 8 5 US-09-548-936B-5 21 37.5 9 5 US-09-786-214-42 Sequence 21 37.5 9 5 US-09-786-214-2 Sequence 21 37.5 9 5 US-09-766-889A-42 Sequence 21 37.5 9 5 US-09-806-769-26 Sequence 21 37.5 9 5 US-09-806-769-26 Sequence 21 37.5 9 5 US-09-806-769-26 Sequence 21 37.5 9 5 US-09-808-990-22 Sequence 22 35.7 6 5 US-09-620-978-569 Sequence 23 35.7 6 5 US-09-620-978-392 Sequence 24 35.7 6 5 US-09-667-187A-392 Sequence 25 35.7 6 5 US-09-635-277A-392 Sequence 26 35.7 6 5 US-09-635-277A-569 Sequence 27 35.7 6 5 US-09-635-277A-569 Sequence 28 35.7 6 5 US-09-637-553A-569 Sequence 29 35.7 6 5 US-09-637-578-569 Sequence 20 35.7 6 5 US-09-67-578A-408 Sequence 20 35.7 6 5 US-09-67-578A-69 Sequence | 21 37.5 8 5 US-09-548-936B-5 21 37.5 9 5 US-09-766-889A-42 21 37.5 9 5 US-09-766-889A-42 21 37.5 9 5 US-09-839-542-2741 21 37.5 9 5 US-09-839-542-2741 21 37.5 9 5 US-09-888-990-22 21 37.5 9 5 US-09-888-990-22 21 37.5 9 5 US-09-620-978-569 22 35.7 6 5 US-09-620-978-392 23 35.7 6 5 US-09-606-181A-392 24 35.7 6 5 US-09-606-181A-392 25 35.7 6 5 US-09-606-191A-392 26 35.7 6 5 US-09-638-277A-392 27 35.7 6 5 US-09-638-277A-392 28 35.7 6 5 US-09-638-569 29 35.7 6 5 US-09-638-277A-569 20 35.7 6 5 US-09-638-2569 20 35.7 6 5 US-09-667-597A-569 20 35.7 6 5 US-09-667-597A-569 20 35.7 6 5 US-09-667-597A-569 20 35.7 6 5 US-09-677-597A-569 20 35.7 6 5 US-09-677-597A-569 20 35.7 6 5 US-09-677-597A-569 | | | | | | | | | | | | | | | | | | |
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| 37.5 9 5 US-09 35.7 6 5 US-09 | 37.5 9 5 US-09-548-9368-5 Sequence 37.5 9 5 US-09-766-889A-42 Sequence 37.5 9 5 US-09-766-889A-42 Sequence 37.5 9 5 US-09-766-889A-42 Sequence 37.5 9 5 US-09-839-542-2741 Sequence 37.5 9 5 US-09-839-542-2741 Sequence 37.5 9 5 US-09-688-990-22 Sequence 37.5 9 5 US-09-688-990-22 Sequence 35.7 6 5 US-09-620-978-569 Sequence 35.7 6 5 US-09-620-7978-392 Sequence 35.7 6 5 US-09-60-181A-392 Sequence 35.7 6 5 US-09-620-421-392 Sequence 35.7 6 5 US-09-635-277A-569 Sequence 35.7 6 5 US-09-637-563A-569 Sequence 35.7 6 5 US-09-640-695A-569 Sequence 35.7 6 S US-09-570-768A-408 Sequence | 37.5 8 5 US-09-548-936B-5 Sequence 5, Ap 37.5 9 5 US-09-786-214-42 Sequence 42, A 37.5 9 5 US-09-786-889A-42 Sequence 42, A 37.5 9 5 US-09-839-542-2741 Sequence 2741, 37.5 9 5 US-09-839-542-2741 Sequence 2741, 37.5 9 5 US-09-8381-30 Sequence 26, A 37.5 9 5 US-09-688-990-22 Sequence 30, A 37.5 9 5 US-09-620-978-569 Sequence 30, A 37.5 9 5 US-09-620-978-569 Sequence 302, A 37.5 9 5 US-09-570-581A-392 Sequence 392, A 37.5 9 5 US-09-60-181A-392 Sequence 392, A 37.7 6 5 US-09-60-181A-392 Sequence 392, A 37.7 6 5 US-09-60-181A-392 Sequence 392, A 37.7 6 5 US-09-63-277A-569 Sequence 392, A 37.7 6 5 US-09-637-563A-569 Sequence 569, A 37.7 6 5 US-09-637-563A-569 Sequence 569, A 38.7 6 5 US-09-637-563A-569 Sequence 569, A 38.7 6 5 US-09-637-768A-408 Sequence 569, A 38.7 6 5 US-09-637-768A-408 Sequence 408, A 38.7 6 5 US-09-570-768A-408 Sequence 408, A 39.7 6 5 US-09-570-768A-408 | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | ω ω | 32 | 31 | 30 | 29 | 28 |
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| 00000000000000000000000000000000000000 | 5 US-09-548-936B-5 Sequence 5 US-09-786-214-42 Sequence 5 US-09-786-214-42 Sequence 5 US-09-766-889A-42 Sequence 5 US-09-806-769-26 Sequence 5 US-09-806-769-26 Sequence 5 US-09-688-990-22 Sequence 5 US-09-620-978-569 Sequence 5 US-09-620-978-569 Sequence 5 US-09-570-581A-392 Sequence 5 US-09-606-181A-392 Sequence 5 US-09-606-181A-392 Sequence 5 US-09-560-177A-392 Sequence 5 US-09-560-177A-392 Sequence 5 US-09-635-277A-569 Sequence 5 US-09-637-263A-569 Sequence 5 US-09-667-597A-569 Sequence 5 US-09-667-597A-569 Sequence 5 US-09-667-597A-569 Sequence 5 US-09-667-597A-569 Sequence 5 US-09-667-597A-569< | 5 US-09-548-936B-5 Sequence 42, Ap 5 US-09-786-214-42 Sequence 42, Ap 5 US-09-766-889A-42 Sequence 22, Ap 5 US-09-839-542-2741 Sequence 26, Ap 5 US-09-806-769-26 Sequence 27, Ap 5 US-09-806-769-26 Sequence 32, Ap 5 US-09-923-831-30 Sequence 30, Ap 5 US-09-620-978-560 Sequence 39, Ap 5 US-09-570-581A-392 Sequence 39, Ap 5 US-09-606-181A-392 Sequence 39, Ap 5 US-09-606-181A-392 Sequence 39, Ap 5 US-09-606-181A-392 Sequence 39, Ap 5 US-09-506-577A-392 Sequence 39, Ap 5 US-09-506-577A-392 Sequence 39, Ap 5 US-09-635-277A-569 Sequence 569, Ap 5 US-09-637-63A-569 Sequence 569, Ap 5 US-09-667-597A-569 Sequence 569, Ap 5 US-09-67-597A-569 Sequence 569, Ap 5 US-09-67-768A-408 Sequence 569, Ap | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 | 35.7 | 37.5 | 37.5 | 37.5 | 37.5 | 37.5 | 37.5 | 37.5 |
| 60-50 60 60-50 60-50 60-50 60-50 60-50 60-50 60-50 60-50 60 60-50 60 60-50 60 60-50 60 60-50 60 60-50 60 60-50 60 60-50 60 60 60-50 60 60 60 60 60 60 60 60 60 60 60 60 60 | US-09-548-9368-5 US-09-786-214-2 US-09-786-889A-42 US-09-786-889A-42 US-09-839-542-2741 US-09-806-769-26 US-09-806-769-26 US-09-808-990-22 US-09-808-990-22 US-09-808-990-22 US-09-808-990-22 US-09-808-990-22 US-09-808-990-22 US-09-500-978-569 US-09-607-025A-392 US-09-607-025A-392 US-09-607-025A-392 US-09-607-025A-392 US-09-607-025A-392 US-09-635-277A-392 US-09-635-277A-392 US-09-635-277A-569 US-09-637-563A-669 US-09-637-563A-699 US-09-637-597A-599 US-09-637-597A-599 US-09-637-597A-599 US-09-637-597A-599 US-09-637-597A-599 US-09-637-597A-699 US-09-637-597A-699 US-09-637-597A-699 US-09-637-597A-699 US-09-637-597A-699 US-09-637-597A-699 US-09-637-597A-699 US-09-637-597A-699 US-09-637-597A-699 US-09-640-695A-569 US-09-687-597A-698 US-09-570-768A-408 | US-09-548-9368-5 US-09-786-214-42 US-09-786-889A-42 Sequence 42, A US-09-786-889A-42 Sequence 274.1 US-09-839-542-2741 Sequence 274.1 US-09-806-769-26 Sequence 22, A US-09-806-769-26 Sequence 30, A US-09-680-978-569 Sequence 392, Sequence 393, Sequence 394, Sequence 394, Sequence 394, Sequence 395, Sequence 394, Sequence 395, Sequence 3 | 6 | 6 | σ | 6 | 6 | 6 | 0 | 0 | 6 | 6 | σ | 9 | 9 | 9 | 9 | 9 | 9 | 8 |
| | -99-548-936B-5 -99-786-214-42 -99-839-542-2741 -99-839-542-2741 -99-806-769-26 -99-688-990-22 -99-628-990-22 -99-620-978-569 -99-620-978-30 -99-620-978-392 -99-606-181A-392 -99 | 109-548-936B-5 109-786-214-42 109-786-2144-42 109-786-8189A-42 109-786-8189A-42 109-819-542-2741 109-819-542-2741 109-819-52 109-618-990-22 109-618-990-22 109-620-978-58 109-620-978-58 109-620-978-392 109-630-0758-392 109-630-0778-392 109-630-0778-392 109-630-0778-392 109-630-0778-392 109-630-0778-393 109-630-0778-393 109-630-0778-393 109-630-078-3 | u | IJ | G | Ų | Çī | σ | Ģ | Ģ | G | υī | G | U | U | σ | Ŋ | σ | 5 | σ |
| | | 44500000000000000000000000000000000000 | -09-570-7684 | -667-597A | US-09-640-695A-569 | -637 | US-09-635-277A-569 | US-09-620-421-392 | -09 | -09 | -09 | US-09-570-581A-392 | US-09-620-978-569 | -09 | US-09-688-990-22 | -09 | -09 | -09- | US-09-786-214-42 | US-09-548-936B-5 |

ALIGNMENTS

RESULT 1 US-09-938-864-49

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APPLICANT: Evans, Lawrence
APPLICANT: Spies, A. Gregory
APPLICANT: Spies, A. Gregory
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 49
LENGTH: 9
TYPE: PRT
                                                                                                                                                                                                                                              US-09-938-864-258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: Homo sapien US-09-938-864-49
APPLICANT: Gaiger, Alexander
APPLICANT: McNeil, Patricia D.
APPLICANT: Smithgall, Molly
APPLICANT: Moulton, Gus
APPLICANT: Vedvick, Thomas S.
APPLICANT: Sleath, Paul R.
APPLICANT: Mossman, Sally
APPLICANT: Evans, Lawrence
APPLICANT: Spies, A. Gregory
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Best Local Similarity
Matches 9; Conserva
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Vedvick, Thomas S.
Sleath, Paul R.
Mossman, Sally
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Pred. No. 2
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US-09-679-339-49

Sequence 49, Application US/09679339

GENERAL INFORMATION:

APPLICANT: Skeiky, Yasir

APPLICANT: Xu, Jiangchun

APPLICANT: Cheever, Martin

APPLICANT: Reed, Steven G.

APPLICANT: Reed, Steven G.
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Best Local Similarity
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-625-963-2
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; TYPE: PRT
; ORGANISM: Mus musculus
US-09-523-419-258
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CURRENT APPLICATION NUMBER: US/09/523,419
CURRENT FILING DATE: 2000-03-10
NUMBER OF SEQ ID NOS: 326
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 258
SOFTWARE: F
SEQ ID NO 49
LENGTH: 9
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                                                                        APPLICANT: Skeiky, vasir
APPLICANT: Xu, Jiangchun
APPLICANT: Cheever, Martin
APPLICANT: Cheever, Martin
APPLICANT: Reed, Steven G.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR I
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.533
CURRENT APPLICATION NUMBER: US/09/679,339
CURRENT FILING DATE: 2000-10-04
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Strauss, Hans Josef
APPLICANT: Gao, Liquan
TITLE OF INVENTION: Immunotherapeutic Methods Using Epitopes of WT-1 and
TITLE OF INVENTION: GATA-1
FILE REFERENCE: ICI 101
CURRENT APPLICATION NUMBER: US/09/625,963
CURRENT FILLING DATE: 2000-07-26
PRIOR APPLICATION NUMBER: PCT/GB99/03572
PRIOR APPLICATION NUMBER: PCT/GB99/03572
PRIOR FILLING DATE: 1999-11-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: GB98 PRIOR FILING DATE: 1998-11-02 NUMBER OF SEQ ID NOS: 5
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                                                             NUMBER OF SEQ ID NOS:
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                                           FastSEQ
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                                           for Windows Version 3.0
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TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.53
CURRENT APPLICATION NUMBER: US/09/679,339
CURRENT FILING DATE: 2000-10-04
NUMBER OF SEQ ID NOS: 357
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 258
LENGTH: 9
TYPE: PRT
ORGANISM: Mus musculus
US-09-679-339-258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: Hor
US-09-679-339-49
Search completed: October 23, 2001, 13:33:06 Job time: 283 sec
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Best Local Similarity
Thes 9; Conserve
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GENERAL INFORMATION:
APPLICANT: Skeiky, Yasir
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Best Local Similarity 100.0%;
Matches 9; Conservative (
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APPLICANT:
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Cheever, Martin
Reed, Steven G.
                                                                                                                                       Conservative
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Pred. No. 2.6e+06;
0; Mismatches 0;
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Pred. No. 2.
                                                                                                                                       Mismatches
                                                                                                                                                                     DB 20;
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SOFTWARE: FASTSEQ for V
SEQ ID NO 49
LENGTH: 9
TYPE: PRT
ORGANISM: Homo sapien
US-09-276-484A-49
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GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Gaiger, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C1
CURRENT APPLICATION NUMBER: US/09/276,484
CURRENT FILING DATE: 1999-03-25
NUMBER OF SEQ ID NOS: 326
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 258
LENCTH: 9
Query Match
Best Local Similarity
3; Conserve
                                                                                                                                                                                                                                                                                                                                  US-09-276-484A-49; Sequence 49, Application US/09276484A; GENERAL INFORMATION: APPLICANT: Gaiger, Alexander; APPLICANT: Cheever, Martin A.
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: SOFTWARE: FASTSEQ for Windows Version 3.0
: SEQ ID NO 49
: LENGTH: 9
: TYPE: PAT
: ORGANISM: Homo sapien
US-09-276-484-49
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Best Local Similarity
Matches 9; Conserv
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                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/276,484A CURRENT FILING DATE: 1999-03-25 PRIOR APPLICATION NUMBER: US 09/164,223 PRIOR FILING DATE: 1999-09-30 NUMBER OF SEQ ID NOS: 326
                                                                                                                                                                                                                                                                                   APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITONS AND METHODS FOR WT1 SPECIFIC TITLE OF INVENTION: IMMUNOTHERAPY
FILE REFERENCE: 210121.465C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CMTWNQMNL
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                 Conservative
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                             100.0%; Score 56; DB 16; 100.0%; Pred. No. 2.6e+06;
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Pred. No. :
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Pred. No. 2.6e+06;
                 Mismatches
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                                             Length 9;
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; SEQ ID NO 49
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-523-419-49
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US-09-276-484A-258
US-09-276-484A-258
; Sequence 258, Application US/09276484A
; GENERAL INFORMATION:
                                                                                           RESULT 12
US-09-523-419-258
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US-09-523-419-49
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Sequence 258, Application US/09523419
GENERAL INFORMATION:
APPLICANT: Hendrickson, Ronald C.
APPLICANT: Probst, Peter
APPLICANT: Reed, Steven G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 49, Application US/09523419 GENERAL INFORMATION:
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Best Local Similarity
Matches 9; Conserv
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Best Local Similarity 100
Matches 9; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/523,419
CURRENT FILING DATE: 2000-03-10
NUMBER OF SEQ ID NOS: 326
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: METHODS FOR THE DIAGNOSIS AND THERAPY TITLE OF INVENTION: OF CHLAMYDIA INFECTION FILE REFERENCE: 210121.492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Hendrickson, Ronald C. APPLICANT: Probst, Peter APPLICANT: Reed, Steven G.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A
TITLE OF INVENTION: COMPOSITONS AND METHODS
TITLE OF INVENTION: IMMUNOTHERAPY
FILE REFERENCE: 210121.465C1
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TYPE: PRT
ORGANISM: Mus musculus
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100.0%; Pred. No.
Live 0; Mismatch
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2.6e+06;
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; NUMBER OF SEQ ID NOS: 320
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 258
; LENGTH: 9
; TYPE: PRT
; ORGANISM: MUS mUSCULUS
US-09-164-223-258
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Best Local Similarity
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; TYPE: PRT
; ORGANISM: Mus musculus
US-09-164-223-258
Query Match
Best Local Similarity
Watches 9; Conserve
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LENGTH: 9
TYPE: PRT
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GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 49, Application US/09164223A
GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
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CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: PATENTIN VEY. 2.0
SEQ ID NO 258
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Best Local Similarity
Matches 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
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                100.0%; ilarity 100.0%; Conservative 0
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             Score 56; DB LJ,
Pred. No. 2.6e+06;
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Pred. No. 2.6e+06;
                                                Length 9;
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         RESULT 7
US-09-276-484-49
Sequence 49, Application US/09276484
GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Griger, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C1
CURRENT APPLICATION NUMBER: US/09/276,484
CURRENT FILING DATE: 1999-03-25
                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
FITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
FILE REFERENCE: 210121.465
CURRENT APPLICATION NUMBER: US/09/164,223B
CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 258
LENGTH: 9
TYPE: PAT
ORGANISM: Mus musculus
US-09-164-223-258
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Best Local Similarity
Thes 9; Conserve
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US-09-164-223-49
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Best Local S
Matches 9
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CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 49
LENGTH: 9
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GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT ORGANISM: Homo sapiens
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1 CMTWNQMNL 9
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Pred. No.
                                                                                                                                                                                                                                                                                                                                          Score 56; DB 15;
Pred. No. 2.6e+06;
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FOR WT1 SPECIFIC IMMUNOTHERAPY

Length 9;

Indels

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Gaps

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FOR WT1

2.6e+06;

Length 9;

Indels

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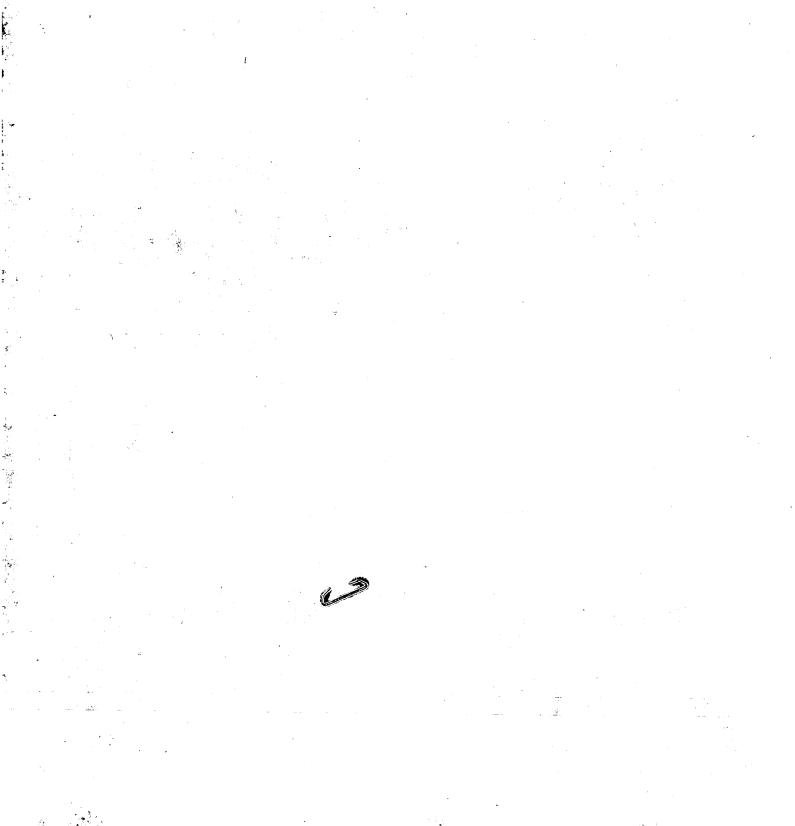
Gaps

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                  // Cgn2_6/ptodata/2/paa/US08_COMB.pep: *
cgn2_6/ptodata/2/paa/US06_COMB.pep: *
cgn2_6/ptodata/2/paa/US07_COMB.pep: *
cgn2_6/ptodata/2/paa/US08_COMB.pep: *
cgn2_6/ptodata/2/paa/US082_COMB.pep: *
cgn2_6/ptodata/2/paa/US082_COMB.pep: *
cgn2_6/ptodata/2/paa/US083_COMB.pep: *
cgn2_6/ptodata/2/paa/US085_COMB.pep: *
cgn2_6/ptodata/2/paa/US095_COMB.pep: *
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US-09-164-223-278 Sequence 27 46 82.1 9 | 56 100.0 9 20 US-09-625-963-2 Sequence 49 56 100.0 9 20 US-09-679-339-258 Sequence 49 56 100.0 9 20 US-09-684-361-49 Sequence 25 56 100.0 9 20 US-09-685-830-258 Sequence 25 56 100.0 9 20 US-09-685-830-258 Sequence 25 56 100.0 9 21 US-09-785-019-49 Sequence 25 56 100.0 9 21 US-09-791-477-49 Sequence 25 56 100.0 9 21 US-09-791-477-258 Sequence 25 56 100.0 9 21 US-09-791-477-258 Sequence 27 46 82.1 9 15 US-09-164-223-278 Sequence 27 46 82.1 9 15 US-09-164-223-131 Sequence 27 46 82.1 9 15 US-09-164-223-131 Sequence 27 46 82.1 9 | 0. 9 19 US-09-523-419-258 Sequence 258, 259 US-09-679-339-259 Sequence 259, 20 US-09-679-339-259 Sequence 259, 20 US-09-684-361-49 Sequence 259, 20 US-09-685-830-258 Sequence 259, 20 US-09-685-830-258 Sequence 259, 20 US-09-685-830-258 Sequence 259, 20 US-09-785-019-258 Sequence 259, 21 US-09-164-223-131 Sequence 259, 21 US-09-164-223-131 Sequence 279, 21 US-09-276-484-131 Sequence 279, 21 US-09-276-484-131 Sequence 279, 21 US-09-276-484A-131 Sequence 279, 21 US-09-683-330-131 Sequence 279, 21 US-09-785-019-131 Sequence 279, 21 US-09-791-477-279 Sequence 279, 21 US-09-7 |

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RESULT 2
US-09-164-223-258
; Sequence 258, Application US/09164223
; GENERAL INFORMATION:
; APPLICANT: Gaiger, Alexander
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US-09-164-223-49
; Sequence 49, Application US/09164223
; GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                        SEQ ID NO 49
LENGTH: 9
TYPE: PRT
                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 9; Conserv
                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
CURRENT APPLICATION NUMBER: US/09/164,223
CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: Patentin Ver. 2.0
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1 CMTWNQMNL 9
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Pred. No. 2.6e+06;
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RESULT 1
AAY23130
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Best Local Similarity
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              Key
                                                                                                            Opioid peptide; ligand binding; opioid receptor; micro-selective opioid peptide; enkephalin; opioid receptor system; blocking; peripheral effect; centrally acting pain killer; morphine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The patent discloses eight new groups of opioid peptides which bind to the mu-receptor to act as agonists or antagonists. The peptides can be used for in vitro assays to study opiate receptor subtypes (especially the mu type) in brain or other tissue samples; and for in-vivo diagnosis to localise opioid subtypes. The peptides are also, useful as drugs to treat pathologies associated with other compounds which interact with the opioid receptor system. Therefore they can be used in medicaments for treating pathologies associated with the mu receptor and as analgesics. They can be used therapeutically to block the peripheral effects of centrally acting pain killers, e.g. to
                                                                                                                                                                                                                                 Opioid peptide which inhibits binding of enkephalin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New mu opioid receptor binding ligand peptide(s) - useful for in-vitro and in-vivo diagnosis, as analgesics, and for blocking peripheral effects of centrally acting drugs, e.g. morphine
                                                                      Synthetic.
                                                                                                                                                                                                                                                                                            23-AUG-1999
                                                                                                                                                                                                                                                                                                                                                    AAY23130
                                                                                                                                                                                                                                                                                                                                                                                                   AAY23130 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               with morphine. The present sequence represents a specific example
of one of the new groups of peptides, of formula
(D)Ile-(D)Met-(D)Thr-(D)Trp-Gly-Xaa-NH2 where Xaa = Gly or the D-form
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of a naturally occurring amino acid.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    prevent side effects such as constipation and pruritis associated
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        Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                     peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                        6
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3.4e+05;
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Search completed: October 23, 2001, Job time: 404 sec
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                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 4; Conser
                                                                                                                                                                                                                                             The specification describes opioid peptides, in which each of the N atoms in the peptide backbone between respective amino acids is modified by permethylation, perallylation, perallylation, perallylation, perbides inhibit ligand binding to an opioid receptor. Specifically, the peptides inhibit ligand binding to an opioid opioid peptide enkephalin. The peptides inhibit the micro-selective opioid peptide enkephalin. The peptides can be used in vivo diagnostically to localize opioid receptor subtypes. They can be used to treat pathologies associated with other compounds which interact with the opioid receptor system. The peptides are especially useful for blocking the peripheral effects of centrally acting pain killers such as morphine. ANY3313-Y23132 represent opioid peptides of the invention, and are derived from the general sequence given in ANY23112.
                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New opioid peptides useful for blocking the peripheral effects centrally acting pain killers such as morphine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 1; Column 11; 92pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1999-394647/33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                07-JUN-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Misc-difference 1..6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dooley
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TORR-) TORREY PINES INST MOLECULAR STUDIES
                                                                          2 mtwgq
                                                                                                           2 MTWNQ 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CT,
                                                                            σ
                                                                                                                                                                                                                     6 AA;
                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Houghten
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95US-0488659
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "with the exception of Gly in position
    all these residues are in the D-form"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "amidated"
                                                                                                                                                       46.4%;
                                                                                                                                          0;
                                                                                                                                                        Score 26;
Pred. No.
                 13:28:56
                                                                                                                                          Mismatches
                                                                                                                                                        3.4e+05;
                                                                                                                                                                       DB 20;
                                                                                                                                          <u>;</u>
                                                                                                                                                                  Length 6;
                                                                                                                                          Indels
                                                                                                                                        0;
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                                                                                                                                       Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention describes peptides that selectively home to a tissue or organ. The peptides can be used for identifying an organ or tissue, for identifying a target molecule expressed by an organ or tissue or for treating an organ or tissue pathology, where the organ or tissue is selected from prostate, lung, skin, retina, pancreas, gut, ovary, adrenal gland, liver, and lymph node. The peptide bind to the membrane dipeptidase (MDP). AAY48618 to AAY49066 represent sequences which are used in the exemplification of the present invention.
                                 Modified-site
                                                       Misc-difference
                                                                            Misc-difference
                                                                                                   Misc-difference
                                                                                                                          Misc-difference
                                                                                                                                               Misc-difference
                                                                                                                                                                                 Synthetic
                                                                                                                                                                                                     enkephalin; mu-opioid receptor ligand; agonist; antagonist
                                                                                                                                                                                                                             Opioid peptide
                                                                                                                                                                                                                                                     20-JAN-1998
                                                                                                                                                                                                                                                                            AAW29017;
                                                                                                                                                                                                                                                                                                  AAW29017 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 11; Page 144; 193pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New peptides which selectively home e.g. identifying target ligands and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1999-571717/48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rajotte D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13-MAR-1998;
26-FEB-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (BURN-) BURNHAM INST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity 37. nes 3; Conservative
                                                                                                                                                                                                                                                                                                                                                          1 cmswdavs
                                                                                                                                                                                                                                                                                                                                                                                1 CMTWNQMN 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                            9 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pasqualini R,
                                                                                                                                                                                                                                                   (first entry)
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99US-0042107
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                                                                                                                                                          Location/Qualifiers
                                                                                                              /note=
                                         'note=
                                                                note=
                                                                                       'note-
                                                                                                                                   note= "D-form residue"
                                                                                                                                                                                                                                                                                                peptide; 6 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                50.0%;
                     "the C-terminal is in amide form"
                                                                 "D-form
                                           "D-form residue"
                                                                                      "D-form
                                                                                                             "D-form
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ruoslahti
                                                                                                                                                                                                                                                                                                                                                                                                    Score 28; DB 20;
Pred. No. 3.4e+05;
4; Mismatches 1
                                                                                       residue
                                                                                                              residue'
                                                                 residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      to organs or tissues, used for, for therapy of pathological
                                                                                                                                                                                                                                                                                                                                                                                                                         Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                     0;
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The patent discloses the following new peptides, which are opioids which bind specifically to the mu receptor: Ac-Phe-Arg-Trp-Trp-Tyr-Xaa-NH2 (1); Ac-Arg-Trp-Ile-Gly-Trp-Xaa-NH2 (2); Trp-Trp-Pro-Lys-His-Xaa-NH2 (3); Trp-Trp-Pro-Xaal-NH2 (4); Tyr-Pro-Phe-Gly-Phe-Xaa-NH2 (5); D-Ile-D-Met-D-Ser-D-Trp-D-Trp-(Gly)n-Xaa2-NH2 (5); D-Ile-D-Met-D-Thr-D-Trp-Gly-Xaa2-NH2 (7); Tyr-A1-B2-C3-NH2 (214); Pm and red ((Me)x/H)y-Tyr-(NMe)x-Tyr-(Xaa3)z-NH2) (221); and Trp-Trp-Pro-D4-(His)z-(Xaa)z-NH2 (222); where Xaa = any natural amino acid; Xaa1 = Lys or Arg; n and z = 0 or 1; Xaa2 = Gly or the D form of any naturally occurring amino acid; Al = D-norvaline or D-norleucine; B2 = Gly phe or Trp; C3 = Trp or naphthylalanine; x and y = 0-2, but not over 2 in total; Xaa3 = Phe, DPhe or berylamino; D4 = Lys or Arg;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI;
                                                                                                            analgesic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              pm and red indicate permethylation and reduction of all CO in peptide links to methylene. These new compounds are useful: (i) for in vitro assay and study of oplate receptor subtypes, particularly mu receptors in the brain; (ii) for in vivo localisation of receptor subtypes; and (iii) therapeutically to block the peripheral effects (e.g. constipation and pruritus) of centrally acting pain killers such as morphine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New opioid peptides which bind mu receptors specifically - have agonist or antagonist activity and are used for study and localisation of mu receptors and to treat peripheral side effects
Misc-difference
                                 Misc-difference
                                                                              Synthetic
                                                                                                                             mu-receptor;
                                                                                                                                                                                            25-SEP-1997
                                                                                                                                                                                                                            AAW24378;
                                                                                                                                                                                                                                                        AAW24378 standard; peptide; 6 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      morphine etc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-JUN-1997.
                                                                                                                                                           New peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    delta and kappa receptor subtypes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (TORR-) TORREY PINES INST MOLECULAR STUDIES
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2 mtwgq
                                                                                                                                                                                                                                                                                                                                                                       2 MTWNQ 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6
                                                                                                                                                           which acts as mu-opioid receptor ligand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence is a specific example of a peptide (7)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Column 12; 92pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                           opioid;
                                                                                                                                                                                           (first entry)
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 /note≔ "D-form residue"
2
                                             Location/Qualifiers
                                                                                                                             opiate; agonist; antagonist; diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                      46.4%;
80.0%;
                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                      Score 26; DB 18;
Pred. No. 3.4e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 18; Length 6;
                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                      0
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                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                          an embryonic antigen, an oncogene antigen, a mutated tumour-suppressor gene antigen, or a viral antigen. They can be used for the treatment of disease such as cancer, e.g. malignant melanoma or infectious disease, e.g. viral disease such as hepatitis or AIDS. Sustained antigen delivery to the lymphatic system provides for potent CTL stimulation that takes place in the milieu of the lymphoid organ, and it sustains stimulation that is necessary to keep CTL active, cytotoxic and recirculating through the body. AAVI0071 to AAVI0639 represent examples of peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present invention describes a method of inducing and/or sustaining an immunological cytotoxic T lymphocyte (CTL) response in a mammal. The method comprises: (a) delivering an antigen to the mammal at a level to induce an immunological CTL response in the mammal; and (b) maintaining
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Inducing a cytotoxic T lymphocyte response - by maintaining a level of antigen in the lymphatic system of a mammal so as to provide a sustained CTL response, used to treat, e.g. AIDS
                                                         WT1 derived
                                                                                        31-JUL-2000
                                                                                                                      AAY98719;
                                                                                                                                                 AAY98719 standard;
                                                                                                                                                                                                                                                                                                                                                                 Sequence
            metastatic
                        WT1; immunotherapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the level of the antigen in the mammal's lymphatic system to maintain the immunologic CTL response. The method can be used for the delivery of e.g. a differentiation antigen, a tumour-specific multilineage antigen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kuendig TM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          T cell epitope/MHC ligand SEQ ID NO:324.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-DEC-1997;
10-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10-JUL-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO9902183-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 malignant melanoma; viral disease; hepatitis; AIDS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (CTLI-) CTL IMMUNOTHERAPIES CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mouse hepatitis virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  immunisation;
                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                             |::|| :|
1 clswngphl 9
                                                                                                                                                                                                                                                         1 CMTWNQMNL 9
                                                                                                                                                                                                                                                                                        4;
                                                                                                                                                                                                                                                                                                                                                                                              given
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            T-lymphocyte response;
                                                                                                                                                                                                                                                                                                                                                                   9 AA;
                                                      immunogenic peptide SEQ ID NO:234.
                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Page 36; 199pp; English
                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Simard JJL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tumour;
                                                                                                                                                                                                                                                                                                                                                                                             in the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97US-0988320
97CA-2209815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98WO-US14289
                                                                                                                                                 Peptide;
        immunogenic; malignant disease; cancer; leukaemia;
mouse; human; Wilm's tumour; immune response;
                                                                                                                                                                                                                                                                                                      53.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            e response; CTL; antigen; lymphatic system; infectious disease; immunotherapy; cancer;
                                                                                                                                                   9
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                                                                                                                                                                                                                                                                                                      Score 30;
Pred. No.
                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                      3.4e+05;
                                                                                                                                                                                                                                                                                                                     DB 20;
                                                                                                                                                                                                                                                                                                                 Length 9;
                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                      0;
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                                                                                                                                                                                                                                                                             AAY48652
                                                                                                                                                                                                                                                                                                 RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Immunogenic portion of a native Wilm's Tumour gene product polypeptide, CC WT1, (or variants of the immunogenic portion retaining the ability to CC react with WT1-specific antisera and/or T-cell lines or clones) and CC comprising 16 consecutive amino acids (aa) or less of a native WT1 CC polypeptide. The polypeptides are useful therapeutically and to CC manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, mimetics or polynucleotides can be included CC with a carrier/excipient in pharmaceutical compositions or with a con-specific immune response enhancer (e.g. an adjuvant or enhancer CC preferentially enhancing a T cell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to CC enhance or induce an immune response specific for WT1 or a cell capressing WT1, useful to inhibit the development of malignant diseases associated with WT1 expression, e.g. leukemia (especially acute/chronic mysloid leukemia or acute lymphocytic leukemia) or cancer (especially acute/chronic mysloid leukemia or acute lymphocytic leukemia) or cancer (especially
                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 4; Conserv
                                 prostate; ovary; lymph membrane dipeptidase.
                                                         Homing peptide; organ; tissue; lung; pancreas; skin; retina; MDP; prostate; ovary; lymph node; adrenal gland; liver; gut; tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     breast, lung, thyroid or gastrointestinal cancer, or a melanoma).

AAY98501 to AAY98811 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel polypeptides comprising an immunogenic portion of a native WT1 polypeptide, useful for inhibiting the development of malignant diseases associated with WT1 expression e.g. leukemia or cancer -
                                                                                                                        Membrane dipeptidase-binding lung homing peptide #23
                                                                                                                                                                       10-DEC-1999
                                                                                                                                                                                                               AAY48652;
                                                                                                                                                                                                                                                       AAY48652 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polym11, (or variants of the immunogenic portion retaining the abi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 4; Page 178; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaiger A, Cheever M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-SEP-1998;
25-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-SEP-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (CORI-) CORIXA CORP. (GAIG/) GAIGER A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                  6
                                                                                                                                                                                                                                                                                                                                                                                                          1 CMTW 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                53.6%; Score 30; DB ilarity 100.0%; Pred. No. 3. Conservative 0; Mismatches
                                                                                                                                                                     (first entry)
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99US-0276484
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                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 21; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
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AAY98790
ID AAY9
XX
AC AAY9
                                                                                                                                                                                     RESULT
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                                                                                                                                                                                                                The present invention describes polypeptides (I) comprising an CC immunogenic portion of a native Wilm's Tumour gene product polypeptide, CC WT1, (or variants of the immunogenic portion retaining the ability to CC react with WT1-specific antisera and/or T-cell lines or clones) and CC comprising 16 consecutive amino acids (aa) or less of a native WT1 CC polypeptide. The polypeptides are useful therapeutically and to CC manufacture medicaments for enhancing/inducing an immune response in CC patients. The polypeptides, mimetics or polynucleotides can be included CC with a carrier/excipient in pharmaceutical compositions or with a carrier/excipient in pharmaceutical compositions or with a con-specific immune response enhancer (e.g. an adjuvant or enhancer CC preferentially enhancing a T cell response) in vaccines. Pharmaceutical CC compositions and vaccines can be administered to human patients to CC enhance or induce an immune response specific for WT1 or a cell CC expressing WT1, useful to inhibit the development of malignant diseases CC associated with WT1 expression, e.g. leukemia (especially acute/chronic CC myeloid leukemia or acute lymphocytic leukemia) or cancer (especially CC hreast, lung, thyroid or gastrointestinal cancer, or a melanoma).

CC AAY98501 to AAY98811 represent polypeptide sequences, and AAA13848 to CR present invention
                                                                                                                             Matches
                                                                                                                                       Query Match
Best Local
  AAY98790;
                      AAY98790 standard; Peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Novel polypeptides comprising an immunogenic portion of a native WT1 polypeptide, useful for inhibiting the development of malignant diseases associated with WT1 expression e.g. leukemia or cancer -
                                                                                                                                                                                   Sequence
                                                                                                                                                                                                           present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 4; Page 179; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2000-293107/25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-SEP-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WT1; immunotherapy; immunogenic; malignant disease; cancer; leukaemia; metastatic disease; mouse; human; Wilm's tumour; immune response;
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                                                                                                                           Similarity 6; Conserv
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                                                                                                                             Conservative
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99US-0276484.
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                                                                                                                                       66.1%;
100.0%;
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                                                                                                                                      Score 37;
Pred. No.
                                                                                                                             Mismatches
                                                                                                                                      DB 21;
3.4e+05;
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                                                                                                                                                 Length 9;
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RESULT :
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AAN13862 represent PCR primers, used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 6; Conserv
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(GAIG/)
12-MAY-1999
                                                     AAY10394
                                                                                                       AAY10394 standard; Peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant diseases associated with WTl expression e.g. leukemia or cancer
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-SEP-1998;
25-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9 AA;
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(first entry)
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99US-0276484.
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mouse; human; Wilm's tumour; immune response;
                                                                                                                                                                                                                                                                                                                                                                           66.1%; Score 37; 100.0%; Pred. No.
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Query Match
Best Local Similarity
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AAY98763
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AAN13862 represent PCR primers, used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                            The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WTI, (or variants of the immunogenic portion retaining the ability to react with WTI-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant diseases associated with WTl expression e.g. leukemia or cancer
                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 4; Page 184; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-SEP-1998;
25-MAR-1999;
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metastatic disease;
                                                                                                                                                                          present invention.
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(GAIG/) GAIGER
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3 cmtwnqm 9
                               1 CMTWNQM 7
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99US-0276484.
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mouse; human; Wilm's tumour; immune response;
                                                                          82.1%;
100.0%;
                                                                          Score 46; Pred. No.
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                                                                          DB 21; 1
3.4e+05;
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                                                                                         Length 9;
                                                           Indels
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RESULT

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AAY98652
ID AAY9
XX AAY9
AC AAY9
XX 31-J
XX WT1
XX WT1
XW WT1;
XW WT2;
XW WOC;
XX WOO;
YN WOO;
PN WOO;
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AAY98730
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Matches 6
                                                                                                                                                                                                                                                                                                       non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a Teell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to enhance or induce an immune response specific for WT1 or a cell expressing WT1, useful to inhibit the development of malignant diseases associated with WT1 expression, e.g. leukemia (especially acute/chronic myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma). AAV198501 to AAV98811 represent polypeptide sequences, and AAA1348 to AAA13862 represent PCR primers, used in the exemplification of the
AAY98730 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WTI, (or variants of the immunogenic portion retaining the ability to react with WTI-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WTI polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, mimetics or polynucleotides can be included with a carrier/excipient in pharmaceutical compositions or with a corrier/excipient in pharmaceutical compositions or with a consecution process exhaust of a paddiugent or polynucleotides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 4; Page 168; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Novel polypeptides comprising an immunogenic portion of a native WT1 polypeptide, useful for inhibiting the development of malignant
                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             diseases associated with WT1 expression e.g. leukemia or cancer
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25-MAR-1999;
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                                                                                                                                                                                                                                                                                          present invention.
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                                                                                                                                                                Conservative
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99US-0276484.
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                                                                                                                                                                              73.2%;
                                                                                                                                                             Score 41; DB; Pred. No. 3.4
0; Mismatches
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3.4e+05;
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                                                                                                              Query Match
Best Local :
                                                                                    Matches
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cancer antigens based on Wilm's tumor suppressor gene WT1 product or peptide derivatives, for cancer vaccines in treating leukemia and solid tumors e.g. stomach cancer, skin cancer, lung cancer and breast cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention describes a cancer antigen containing the active component of Wilms' tumour suppressor gene WT1 product, or partial peptides, for cancer vaccines in treating leukaemia and solid tumours. The cancer antigens are useful for cancer vaccines in treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2000-195264/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sugiyama H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31-JUL-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY80202 standard; Peptide; 9
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                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 5; Page 18; 48pp; Japanese.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human Wilms' tumour suppressor gene WT1 product peptide SEQ ID NO:7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY80202;
                                                                                                                                                                                                                                                                                                                                                                                              multiple myeloma, stomach cancer, cancer of the large intestine,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (SUGI/) SUGIYAMA H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30-JUL-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                        leukaemia, bone-marrow abnormal formation syndrome, malignant
                                                                                                           Local
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1 CMTWNQMNL 9
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                                                                                                                                                                                                                                                                                  tumour suppressor gene
                                                                                 Similarity
9; Conser
                                                                                                                                                                                                                                                                               breast cancer, blastoma, liver cancer, skin cancer, bladder prostate cancer, uterus cancer, cervical cancer, or ovary The present sequence represents a peptide from the human tumour suppressor gene WTl product.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
9; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            invention.
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                                                                                                                                                                                                                             9
                                                                                    Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                             A,
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                                                                                                         100.0%;
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                                                                           Score 56; DB 21;
Pred. No. 3.4e+05;
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Pred. No. 3.4e+05;
; Mismatches 0;
                                                                                                                                      Length 9;
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                                                                                                                                                                                                                                                                                                                                                                                                                              lymphoma,
                                                                                 Gaps
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RESULT
AAY98616
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                                                                               Query Match
Best Local
                                                                Matches
                                                                                                                                                                           non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a T cell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to enhance or induce an immune response specific for WT1 or a cell expressing WT1, useful to inhibit the development of mallignant diseases associated with WT1 expression, e.g. leukemia (especially acute/chronic myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma). AAY98501 to AAY98811 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                          The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WT1, (or variants of the immunogenic portion retaining the ability to react with WT1-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WT1 polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, mimetics or polynucleotides can be included with a carrier/exciptent in pharmaceutical compositions or with a contest of the polypeptides.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 4; Page 163; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant diseases associated with WTl expression e.g. leukemia or cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaiger A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-SEP-1998;
25-MAR-1999;
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                                                                                                                                                Sequence
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                                                                          Local
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                                1 CMTWNQM
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                                                                Similarity 7; Conser
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                                                                Conservative
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                                                                                                                                                ΑĄ;
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99US-0276484.
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mouse; human; Wilm's tumour; immune response;
                                                              82.1%; Score 46; DB
100.0%; Pred. No. 3.
Live 0; Mismatches
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                                                                               3.4e+05;
                                                                                                DB 21;
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                                                                  Indels
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RESULT
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Best Local
The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WT1, (or variants of the immunogenic portion retaining the ability to react with WT1-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WT1 polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, minetics or polynucleotides can be included with a carrier/excipient in pharmaceutical compositions or with a non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a T cell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to enhance or induce an immune response specific for WT1 or a cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present sequence is peptide epitope WT235-43, produced by WT1 expressing cells and found at residues 235-243 of the WT1 protein, which is recognised by cytotoxic T lymphocytes. WT1 is aberrantly expressed in leukaemias, breast cancer, melanoma and ovarian cancer. The peptide can be used as a vaccine to stimulate the elimination, by cytotoxic T lymphocytes, of cancer cells aberrantly expressing WT1. In addition, the nucleic acid encoding the peptide may also be used in the same manner. Alternatively, the peptide may be used in vitro to produce activated cytotoxic T lymphocytes.
                                                                                                                                                                                                                                                                Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant diseases associated with WTI expression e.g. leukemia or cancer
                                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-SEP-1998;
25-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                    (CORI-) CORIXA
(GAIG/) GAIGER
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nes 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              immunotherapy;
static disease;
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                                                                                                                                                                                                                                   Page 151; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                     Cheever M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9 AA;
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99US-0276484.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mouse;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           immunogenic; malignant disease; cancer; leukaemia;
mouse; human; Wilm's tumour; immune response;
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Pred. No.
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AAY98743
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Best Local
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            patients. The polypeptides, mimetics or polynucleotides can be included with a carrier/excipient in pharmaceutical compositions or with a non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a T cell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to enhance or induce an immune response specific for WTl or a cell expressing WTl, useful to inhibit the development of malignant diseases
                                                                                                                  The present invention describes polypeptides (I) comprising an immunogenic portion of a native wilm's Tumour gene product polypeptide, WT1, (or variants of the immunogenic portion retaining the ability to react with WT1-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WT1 polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in
   expressing associated
                                                                                                                                                                                                                                            Claim 4;
                                                                                                                                                                                                                                                                        Novel polypeptides comprising an immunogenic portion of a native WT1 polypeptide, useful for inhibiting the development of malignant diseases associated with WT1 expression e.g. leukemia or cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma). breast to AAY9801 to AAY98811 represent polypeptide sequences, and AAA13848 to
                                                                                                                                                                                                                                                                                                                                                                   Gaiger A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WT1; immunotherapy;
metastatic disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   expressing WT1, useful to inhibit the associated with WT1 expression, e.g. 1
                                                                                                                                                                                                                                                                                                                                                                                               (CORI-) CORIXA (GAIG/) GAIGER
                                                                                                                                                                                                                                                                                                                                                                                                                                             30-SEP-1998;
25-MAR-1999;
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                                                                                                                                                                                                                                            Page 181;
                                                                                                                                                                                                                                                                                                                                                                    Cheever M
   with
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     immunogenic peptide SEQ
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WT1 expression,
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99US-0276484
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                                                                                                                                                                                                                                          193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mouse;
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mouse; human; Wilm's tumour; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%;
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Result
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4: /SIDS8/gcgdatta/geneseq/geneseqp/AA1983.DAT:*
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17.147 Million cell updates/sec
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| 41.1 | 41.1 | 41.1 | 41.1 | • | 41.1 | 41.1 | 41.1 | 41.1 | • | • | • | • | | • | • | • | 42.9 | • | | • | • | 42.9 | • | | | ٠ | 44.6 | | 46.4 | 46.4 | | • | 50.0 |
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| AAW64042 | AAW64040 | AAR86225 | AAR86224 | AAR86223 | AAR86222 | AAR86221 | AAR86216 | AAB49875 | AAB90157 | AAB90155 | AAR50835 | AAR50841 | AAR50840 | \mathbf{r} | AAR50822 | AAR50821 | AAR50820 | AAB90158 | AAB90156 | AAB90154 | AAR50843 | AAR50842 | AAW64036 | AAR86217 | AAY14272 | AAW64039 | AAR86220 | J | AAY98636 | AAY23130 | AAW24378 | AAW29017 | AAY48652 |
| ELAM-1 peptide mim | ELAM-1 peptide mim | Anti-ELAM-1 bindin | bindi | Human endostatin p | VIIa | | 110 | lic peptide | 110 | peptide | peptide | | peptic | VIIa (| _ | | | peptide | ELAM-1 peptide mim | -1 bi | per. | 1 pepti | Anti-ELAM-1 bindin | WT1 derived immuno | WT1 derived immuno | Opioid peptide whi | ptide whi | Opioid peptide. S | Membrane dipeptida |

ALIGNMENTS

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RESULT
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                          Novel peptides comprising WT-1 and GATA-1 epitopes, their fragments or variants, useful as vaccines for cancer immunotherapy \,
                                                                            Stauss HJ, Gao L;
                                                                                                                   02-NOV-1998;
                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                   WT235-43; peptide; epitope; Wilm's tumour gene; leukaemia; breast cancer; melanoma; ovarian cancer; immunotherapy.
                                                                                                                                                                                                                                                                                       AAY94203;
                                                                                                                                                                                                                                                                                                        AAY94203 standard; peptide;
                                                         WPI;
                                                                                              (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD
                                                                                                                                      02-NOV-1999;
                                                                                                                                                         11-MAY-2000
                                                                                                                                                                             WO200026249-A1
                                                                                                                                                                                                                                                Human cytotoxic T lymphocyte-recognised WT1 peptide WT235-43.
                                                                                                                                                                                                                                                                   28-JUL-2000
                                                                                                                                                                                                                                                                                                                            ,
ப
                                                         2000-376123/32
                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                    98GB-0023897.
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Claim 2; Page 74; 93pp; English



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RESULT 15
Q69100
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Search completed: October 23, 2001, 13:33:46
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Best Local Similarity 66.7
Matches 2; Conservative
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O69100;
O69100;
O1-NOV-1996 (TrEMBLrel. 01, Created)
O1-NOV-1996 (TrEMBLrel. 02, Last sequence update)
O1-NOV-1998 (TrEMBLrel. 08, Last annotation update)
PROTEIN 32 (FRAGMENT).
Herpes simplex virus (type 2).
Viruses; dsDNA viruses, no RNA stage; Herpesviridae;
Alphaherpesvirinae; Simplexvirus.
(KCBL_TaxID=10310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.

MEDLINE-9015509; PubMed-2154597;
Yei S. Chowdhury S.I., Bhat B.M., Conley A.J., Wold W.S.,
Batterson W.;
"Identification and characterization of the herpes simplex virus type
2 gene encoding the essential capsid protein ICP32/VP19c.";
J. Virol. 64:1124-1134(1990).
EMBL; M33905; AAA45847.1; -.

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SEQUENCE 9 AA; 993 MW; C13BCDC5BB1DC37D CRC64;
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Q43928; Q43918; Q43920; Q-
01-NOV-1996 (TERMBLICAL. 01
01-NOV-1996 (TIERMBLICAL. 01
01-MAR-2001 (TERMBLICAL. 1)
                                                                                                                                                                               Q62721
Q62721;
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EMBL; XE
EMBL; XE
NON_TER
                              EMBL; UI
                                             prohibitin-encoding genes.";
Gene 158:291-294(1995).
                                                                                                                           Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                 01-NOV-1996 (Tremblrel.
01-NOV-1996 (Tremblrel.
01-NOV-1998 (Tremblrel.
PROHIBITIN (FRAGMENT).
                    SEQUENCE
                                                                    McClung J.K.;
                                                                                 MEDLINE=95331633; PubMed=7607556; Altus M.S., Wood C.M., Stewart D.
                                                                                                STRAIN-FISHER;
                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                               "Study of the Intergenic exeF-exeG region simple preliminary test for Aeromonas spp. FEMS Microbiol Lett. 137:37-44(1996). EMBL; X89464; CAA61639.1; -. EMBL; X89460; CAA61635.1; -. EMBL; X89460; CAA61635.1; -.
                                                                                                                     NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                STRAIN=VARIOUS STRAINS;
MEDLINE=97089747; PubMed=8935655;
                                                                                                                                                                                                                                                                                                                                                                                                            Aeromonas
Bacteria;
                                                                         Henderson T., Owens G.A.,
                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
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                                                            Regions of evolutionary conservation
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01, Last sequence update)
16, Last annotation update)
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                                                                                                                           Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
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RESULT
Q9MW43
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P79940
 Query Match
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Matches 2
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P79940;
O1-MAY-1997 (TrEMBLrel. 03, 0
O1-MAY-1997 (TrEMBLrel. 03, 1
O1-MAY-1997 (TrEMBLrel. 03, 1
XMEIS1-4 PROTEIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                            Q9MW43;
Q9MW43;
01-OCT-2000
01-OCT-2000
01-OCT-2000
MHC CLASS I
                                                                                                                                                                           MEDLINE-97246738; PubMed-9089103; Vargas-Alarcon G., Gomez-Casado E., Martinez-Laso J., Granados J. Layrisse Z., Alegre R., Arnaiz-Villena A.; "Differences in intron 2 sequences between B*39061 and B*39062 in Amerindians: comparison with those of B*3901, B*5101, and B*52012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
Steelman S., Moskow J.J., Muzynski K., North C
Montgomery J.C., Huebner K., Daar I.O., Buchbe
Submitted (AUG-1996) to the EMBL/GenBank/DDBJ
EMBL; U68389; AAB19199.1; -.
NON_TER 1
                                                                                                                                                                   Amerindians: alleles.";
                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                            SEQUENCE
                                                                                                                                                                                                                                                            TISSUE-BLOOD;
                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Amphibia; Batrachia; Anura; Mesobatrachia;
Xenopodinae; Xenopus.
NCBI_TaxID=8355;
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Eukaryota; Metazoa; Chordata; Crania
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                                                                                                                                    EMBL; L76640;
                                                                                                                                                                                                                                                                                                   NCBI_TaxID=9606;
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Primates;
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K., Daar I.O., Buchberg A.M.;
he EMBL/GenBank/DDBJ databases.
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 Score 16; DB; Pred. No. 4.2
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                    EMBL; X8
                                                   Karlyshev A.V., MacIntyre S.;
"Study of the intergenic exer-exeG region simple preliminary test for Aeromonas spp. FEMS Microbiol. Lett. 137:37-44(1996).
                                                                                                                      SEQUENCE FROM N.A. STRAIN=CDC 9179-79; STRAIN=CDC 9179-79; PubMed=8935655;
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Devare S.G., Shatzman A.R., Robbins K.C.,
"Expression of the PDGF-related transform
virus in E. coll.";
Cell 36:43-49(1984).
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Viruses; Retroid viruses;
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                                                                                                                                                                               NCBI_TaxID=649;
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                                                                                                                                                                                 SEQUENCE FROM N.A. STRAIN=CDC 1306-83; STRAIN=CDC 1306-83; MEDLINE=97089747; PubMed=8935655;
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01-MAY-2000
01-MAY-2000
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MEDLINE=8106988; PubMed=6254986;
Bonitz S.G., Coruzzi G., Thalenfeld B.E., Tzagoloff A., Macino G.;

"Assembly of the mitochondrial membrane system. Structure and nucleotide sequence of the gene coding for subunit 1 of yeast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              035792;
01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-NOV-1998 (TrEMBLrel. 08, Last annotation update)
01-NOV-1998 (TREMBLrel. 08, Last annotation update)
0XI3 LOCUS IN YEAST MITOCHONDRION (STRAIN D273-10B)
CYTOCHROME OXIDASE SUBUNIT 1).
Saccharomyces cerevisiae (Baker's yeast).
                                      Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Spritz R.A., Holmes S.A., Berg S.Z., Nordlund J.J., Fund The Recurrent deletion in the KIT (mast/stem cell growt receptor) proto-oncogene is a frequent cause of human Hum. Mol. Genet. 2:1499-1500(1993).
EMBL, S67686; AAD13996.1; -.
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Saccharomycetales; Saccharomycetaceae;
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Catarrhini;
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                                                                Vertebrata; Euteleostomi;
i; Hominidae; Homo.
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4.2e+05;
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                                        SEQUENCE FROM N.A.
STRAIN=NINE MILE PHASE I;
Willems H., Jaeger C., Bal
"Physical and genetic map
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NCBI_TaxID=777;
                                                                                                                                                                                                                                                                              Bacteria; Proteobacteria; Coxiella group; Coxiella.
                                                                                                                                                                                                                                                                                                                                                              Coxiella burnetii.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         brain of the silkworm, Bom
J. Biol. Chem. 0:0-0(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=C145 X N140; TISSUE=BRAIN; Hua Y. J., Tanaka Y., Nakamura K.; Hua Y. J., Tanaka Y., Nakamura K.; "Identification of a prothoracioostatic brain of the silkworm, Bombyx mori.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Pterygota; Neoptera; Endopterygota; Lepidoptera; Glo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
PROTHORACICOSTATIC PEPTIDE (PTSP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Schiffmann E., Liotta L.A.;
"Identification, purification, and partial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=92129337; PubMed=1733949; Stracke M.L., Krutzsch H.C., Unsworth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bombycoidea; Bombycidae; Bombyx.
NCBI_TaxID=7091;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bombyx mori (Silk moth)
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hem. 267:2524-2529(1992).
9 AA; 1136 MW; 9A3CAB14536772CA CRC64;
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Coxiella

burnetii

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                      Minimum DB seq length: 0 Maximum DB seq length: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Title:
Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OM protein -/protein search, using sw model
SPTREMBL_16:*

1: sp_archea:*
2: sp_bacteria:*
3: sp_fungl:*
4: sp_human:*
5: sp_invertebrate
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_unclassifi
13: sp_vertebrate
14: sp_virus:*
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56
1 CMTWNQMNL 9
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Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                   sp_organelle:*
sp_phage:*
sp_plant:*
 sp_unclassified:*
sp_vertebrate:*
sp_virus:*
                                                                                                                                       sp_human:*
sp_invertebrate:*
sp_mammal:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| 10 11 12 13 14 15 16 17 18 | 14884106780 | Result |
|--|--|-----------------------|
| 17 16 16 16 16 16 15 15 15 | 22 21 20 19 18 18 18 | Score |
| 228 228 228 228 230 24 250 250 250 250 250 250 250 250 250 250 | 39.3 37.5 35.7 33.9 32.1 32.1 | Query Match Length |
| \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | | ength DB |
| Q4446 Q44928 Q43928 1 Q62721 P79940 3 Q9MW43 4 Q69100 Q9UMH9 Q57328 Q57328 Q38340 Q38340 Q30790 | 2 Q9R635 4 Q9UMA0 8 Q35792 4 Q9UCQ9 5 P82003 2 Q85406 2 Q85723 14 Q4007 | ID |
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| Q4448 Q4448 Q43928 Q62721 P79940 Q9mw43 Q9mw43 Q9mwb9 Q57328 Q57328 Q38340 Q38340 | Q9r635 Q9uma0 Q35792 Q9ucq9 P82003 O85406 Q8572 Q44001 | Description |
| 1,443), actomonas v 1,4448 aeromonas c 062721 rattus norv 079940 xenopus lae 1,9940 xenopus lae 1,9940 xenopus lae 1,9043 homo sapien 0,69100 herpes simp 1,9040 homo sapien 1,9040 homo sapien 1,9040 lactococcus 1,9040 erwinia amy | 97635 chlamydia t 935 chlamydia t 935792 saccharomyc 930029 homo sapien 92003 bombyx mori 92003 bombyx mori 985723 simian sarc 944001 aeromonas e | iption |
| nas c nas c norv s norv lae apien s simp s simp apien nas s occus a my | dia tapien romyc romyc apien mori mori la bu la bu la sarc | |

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| 11 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 14 | 14 | |
| 19.6 | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 | | | 21.4 | | | | | | | | | | | | | | 25.0 | | |
| 6 | 9 | 9 | 9 | 9 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 7 | 9 | 9 | 9 | 9 | 9 | æ | œ | œ | 8 | 80 | 7 | 9 | 9 | |
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| P82096 | 090350 | Q9PRJ4 | Q38366 | Q31653 | P82598 | P82689 | P82688 | P82687 | P82686 | P82685 | 042564 | 049223 | Q89491 | Q9GK05 | Q9UK44 | Q9UQW0 | Q9JNI6 | Q9QVD3 | P70243 | Q62933 | Q9UDZ4 | Q15888 | 034028 | Q16386 | Q9R9C4 | |
| P82096 litoria rub | O90350 hepatitis g | Q9prj4 lepisosteus | Q38366 bacteriopha | Q31653 anser caeru | P82598 rattus norv | | P82688 periplaneta | | | P82685 periplaneta | 4 | 049223 glycine max | Q89491 murine minu | Q9gk05 capra hircu | homo | Q9uqw0 homo sapien | strepto | Q9qvd3 rattus sp. | P70243 mus musculu | Q62933 rattus norv | Q9udz4 homo sapien | Q15888 homo sapien | O34028 pseudomonas | Q16386 homo sapien | Q9r9c4 borrelia bu | |

ALIGNMENTS

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Search completed: October 23, 2001, 13:34:05 Job time: 277 sec
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MOD_RES 6 6 AMIDATION.

SEQUENCE 6 AA; 654 MW; 686365A5B9CDB000 CRC64;
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RESULT 14
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PROSITE; |
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Theropithecus gelada (Gelada baboou).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Cercopithe
Cercopithecinae; Theropithecus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and Theropithecus gelada): their amino acid sevolutionary rates and a molecular phylogeny J. Biochem. 94:1973-1978(1983).
-I- FUNCTION: FIBRINGEN HAS A DOUBLE FUNCTIC POLYMERIZE INTO FIBRIN AND ACTING AS A CC
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01-NOV-1990 (Rel.
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Nakamura S., Takenaka O., Takahashi K.;
"Fibrinopeptides A and B of baboons (Papio anubis, Papio hamadryas,
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NON_TER
SEQUENCE
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MEDLINE=92262851; PubMed=1585017;
Schoofs L., Holman G.M., Proost P
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 PIR;
                                   isolation, primary structure
Regul. 37:49-57(1992).
-!- FUNCTION: MYCOTROPIC PEPTI
OF ION TRANSPORT AND INHI
                                                                                                                                                                                                                                           NCBI_TaxID=7004;
                                                                                                                                                                                                                                                           Locusta migratoria (Migratory locust).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Orthopteroidea; Orthoptera; Caelifera;
Acridomorpha; Acridoidea; Acrididae; Locusta.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human immunodeficiency virus type 1 (Z-84 isolate) Viruses; Retroid viruses; Retroviridae; Lentivirus
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MEDLINE=88281278; PubMed=3395517;
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                                   DIURETIC AC
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9.3e+04;
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Best Local S
Matches 2
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Best Local
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                                                                                                    MOD_RES
SEQUENCE
                                                                                                                         Pigment;
MOD_RES
                                                                                                                                                                                        Pandalus borealis.";
Biochim. Biophys. Acta 371:304-311(1974).
-i- FUNCTION: THIS HORMONE ADAPTS THE ANIMAL
                                                                                                                                                                                                                                                                                                                                            01-NOV-1988 (Rel. 09, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
01-OCT-2000 (Rel. 40, Last annotation update)
RED PIGMENT CONCENTRATING HORMONE (RPCH)
                                                                                                                                                                                                                                                                                                                                                                                       RPCH_PANBO P08939;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "The primary structure of the hypertrehalosemic neuropeptide from tenebrionid beetles: a novel member of the AKH/RPCH family."; Peptides 11:455-459(1990)
-I- FUNCTION: HYPERTREHALOSAEMIC FACTORS ARE NEUROPEPTIDES THAT
                                                                                                                                                                                                                                                                                                    Eumalacostraca; Eucarida; Decapoda; Pleocyemata; Caridea; Pandaloidea;
Pandalidae; Pandalus.
                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Arthropoda; Crustacea; Malacostraca;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=90341081; PubMed=2381871; Gaede G., Rosinski G.;
                                                                                                                                             PROSITE;
                                                                                                                                                                                                                                                   Fernlund P.;
                                                                                                                                                                                                                                                            MEDLINE=75054965;
                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                          NCBI_TaxID=6703;
                                                                                                                                                                                                                                                                                                                                   Pandalus borealis (Northern red shrimp)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Neuropeptide;
MOD_RES
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NCBI_TaxID=7067, 7075;
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                                                                                                                                                                                                                                      'Structure of the red-pigment-concentrating
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SIMILARITY: BELONGS TO THE AKH / HRTH / RPCH FAMILY.
OLN 3
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                                                                                                                                                                                     STIMULATING CONCENTRATION CHROMATOPHORES.
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B43976; B43976.
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2; Conserv
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                                                                                                                                   Hormone; Amidation.
                                                                                                                                             PS00256;
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                                                  Conservative
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                                                                                                    AMIDATION.
86786775B9C44736
                                              Score 13; DB Pred. No. 9.3e 1; Mismatches
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Pred.
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9.3e+04;
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ITS RED BODY-
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RESULT 12
FIBB_PAPHA
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Best Local
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P19343;

01-NOV-1990 (Rel.

01-NOV-1990 (Rel.

01-NOV-1990 (Rel.

FIBRINOPEPTIDE B.
                           MEDLINE-84161822; PubMed-6423621;

**Rakamura S., Takenaka O., Takahashi K.;

**Fibrinopeptides A and B of baboons (Papio anubis, and Theropithecus gelada): their amino acid sequence evolutionary rates and a molecular phylogeny for the J. Biochem. 94:1973-1978(1983).

-i- FUNCTION: FIBRINOGEN HAS A DOUBLE FUNCTION: YIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nakamura S., Takenaka O., Takahashi K.;
"Pibrinopeptides A and B of baboons (Papio anubis, Papio hamadryas, and Theropithecus gelada): their amino acid sequences and evolutionary rates and a molecular phylogeny for the baboons.";
J. Biochem. 94:1973-1978(1983).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FIBB_PAPAN
P19344;
01-NOV-1990
01-NOV-1990
01-NOV-1990
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SEQUENCE
                                                                                                                                               Eukaryota; Métazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae; Cercopithecinae; Papio.
NCBI_TaxID=9557;
                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Blood
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PROSITE; PS00514; FIBRIN_AG_C_DOMAIN;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION: FIBRINGEN HAS A DOUBLE FUNCTION: YIELDING MONOMERS POLYMERIZE INTO FIBRIN AND ACTING AS A COFACTOR IN PLATELET
POLYMERIZE INTO FIBRIN AND AGGREGATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGREGATION.
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16, Last sequence up
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Chordata;
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                 DOUBLE FUNCTION: YIELDING MONOMERS THAT ACTING AS A COFACTOR IN PLATELET
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15-DEC-1998
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PIR;
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                                                                                                                                                                                                                                                                                                                                                               Proux J.P., Miller C.A., Li J.P., Delaage M., Schooley D.A.;
                                                                                                                                                                                                                                                                                                                                                                                              TISSUE-Suboesophageal ganglion, a MEDLINE-88077077; PubMed-3689410;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-AUG-1990 (Rel. 15, Created)
01-AUG-1990 (Rel. 15, Last sequence update)
15-DEC-1998 (Rel. 37, Last annotation update)
LOCUPRESSIN (DIURETIC NEUROPEPTIDE F1/F2).
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01-AUG-1990
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                                                                                                                                                                                                                                                                                                                    Biochem.
                                                                                                                                                                                                                                                                                                                                  "Identification of an arginine vasopressin-like diuretic Locusta migratoria.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Acridomorpha; Ac
NCBI_TaxID=7004;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pterygota; Neoptera; Orthopteroidea; Acridomorpha; Acridoidea; Acrididae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Arthropoda;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=88234141;
Fan Z.W., Eng J.,
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TISSUE-Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Locusta migratoria (Migratory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNF1_LOCMI
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                                                                                                                                                                                                                                      InterPro; IPR000981;
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                                                                                                                                                                                                                                                                     1- FUNCTION: DIURETIC HORMONE.
1- SUBUNIT: F2 IS AN ANTIPARALLEL DISULFIDE LINKED
1- SIMILARITY: BELONGS TO THE VASOPRESSIN/OXYTOCIN
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SIMILARITY: BELONGS TO THE GASTRIN/CHOL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MTW 4
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PQ0012; PQ0012.
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                             Similarity
2; Conserv
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Shaw G., Yalow
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                           Score 14; DB Pred. No. 9.3e 1; Mismatches
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01-MAY-1992 (Rel. 22, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
01-FEB-1994 (Rel. 28, Last annotation update)
HYPERTREHALOSAEMIC FACTOR (HOTH) (HYPERTREHALOSEMIC NEUROPEPTIDE).
HYPERTREHALOSAEMIC FACTOR (HOTH), and Zophobas rugipes.
Tenebrio molitor (Yellow mealworm), and Zophobas rugipes.
HYPERTREHALOSAEMIC FACTOR (HOTH)
HYPERTREHALOSAEMIC NEUROPEPTIDE).
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Best Local
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Biol. Chem. Hoppe-Seyler 373:133-142(1992).

First Function: This Hormone, Released From Cells in the Corper of Functions after the Beginning of Flight, Causes Release (CARDIACA AFTER THE BEGINNING OF FLIGHT, CAUSES RELEASE (DIGLYCERIDES FROM THE FAT BODY AND THEN STIMULATES THE DIGLYCERIDES AS AN ENERGY SOURCE.
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Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insec Pterygota; Neoptera; Endopterygota; Coleoptera; Polyphaga; Scarabaeidormia; Scarabaeidae; Melolonthinae; Melolontha.

NCBI_TaxID=7061, 7087, 7058;
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01-FEB-1994 (Rel. 28, Last
01-FEB-1994 (Rel. 28, Last
ADIPOKINETIC HORMONE (AKH).
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MEDLINE-92265187; pu
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SPECIES=M.melolontha, and G.stercorosus; MEDLINE=91248100; PubMed=2039445;
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PubMed=1586453;
A., Kellner R., Rinehart K.I
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Pred. No. 9.
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C p31799;
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T 01-JUL-1993 (Rel. 26, Created)
T 01-JUL-1993 (Rel. 26, Last sequence update)
T 01-OCT-1993 (Rel. 27, Last annotation update)
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C Pterygota; Metazoa; Arthropoda; Tracheata; Hexapoda; Inc C Pterygota; Metazoa; Orthoptera; Caelife C Acridomorpha; Acridoidea; Acrididae; Locusta.

N NCBL_TaxID-7004;
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Neuropeptide;
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SEQUENCE 7 A
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                                  peptide (LOM-MIP), a novel biological locusta migratoria. ". Regul. Pept. 36:111-119(1991). "- ". FUNCTION: SUPPRESSES SPONTANEOUS
                                                                                                MEDLINE=92179466; PubMed=1796179;
Schoofs L., Holman G.M., Hayes T.K., Nacl
"Isolation, identification and synthesis
peptide (LOM-MIP), a novel biologically a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minakata H., IKeda T., Muneoka Y., Kobayashi M., "Wwamide-1, -2 and -3 novel neuromodulatory pept ganglia of the African giant snail, Achatina fuli FEBS Lett. 323:104-108(1993).
PIR: S33244; S33244.
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Eukaryota; Metazoa; Mollusca; Gastr
Achatinacea; Achatinidae; Achatina.
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MEDLINE=93265912; PubMed=8495720;
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lly active neuropeptide from
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P30369;
01-APR-1993
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PA1495;
01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1995 (Rel. 33, Last annotation update)
TRYPSIN-MODULATING COSTATIC FACTOR (TMOF).
Sarcophaga bullata (Grey flesh fly) (Neobellieria bullata).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Oestroidea; Sarcophagidae; Sarcophaga.
Macropus eugenii (Tammar wallaby), and Dasyurus viverrinus (Southeastern quoll). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Metatheria; Diprotodontia; Macropodidae; Macropus. NCBI_TaxID=9315, 9279;
                                                                CCK.
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SEQUENCE
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01-APR-1993 (Rel. 25, Last seq
01-OCT-1996 (Rel. 34, Last ann
CHOLECYSTOKININ (CCK).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- TISSUE SPECIFICITY: NEURONS LOCATED
IN THE SUBOESOPHAGEAL GANGLION.
PIR; A60065; AKLQIM.
Amidation; Neuropeptide.
MOD_RES
9
9
AMIDATION.
SEQUENCE
9 AA; 1060 MW; 387D7DD4472A
                                                                                                                                                                                                                                                                                                                                                             (Sarcophaga) bullata.";
Regul. Pept. 50:61-72(1994).
-i- FUNCTION: HAS AN OOSTATIC ACTIVITY. INHIBITS TRYPSIN BIOSYNTHESIS
-IN THE MIDGUT WHICH INDIRECTLY REDUCES THE VITELLOGENIN
CONCENTRATION IN THE HEMOLYMPH RESULTING IN INHIBITION OF OOCYTE
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Title: Perfect score: Post-processing: Minimum Match 0%
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Listing first 45 summaries Total number of hits satisfying chosen parameters: Minimum DB seq length: 0 Maximum DB seq length: 9 Scoring table: Run on: OM protein - protein search, using sw model Searched: US-09-625-963-2 56 1 CMTWNQMNL 9 October 23, 2001, 13:34:05; Search time 12.6 Seconds (without alignments)
24.468 Million cell updates/sec BLOSUM62 Gapop 10.0 , Gapext 0.5 93435 seqs, 34255486 residues GenCore version 4.5 Copyright (c) 1993 - 2000 Compugen Ltd. 213

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Database :

SwissProt_39:*

SUMMARIES

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| P18691 thunnus alb P18595 tabanus atr | 30425 bothrop | P42998 eisenia foe P17441 pichia jadi | 7 conus st |) leucophae | leucophae | œ | leucophae | | | _ | 0 | ш | P25418 libellula a | 5 gryllus | 1 locust | 1 human i | 2 therop | papio | 44 papio anu | pandalus | 9 | 3 melolontha | 9 locusta m | 9 | 5 sarcophaga | 9 locusta mi | achatina f | 919 achatina | achatina f | Description | |

| S T T W | RESULT WWA2_A ID W AC P AC P DT 0 DT 0 DT 0 | |
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| Achatina fulica (Eukaryota; Metazo Achatinacea; Acha NCBI_TAXID=6530; [1] SEQUENCE. TISSUE=Ganglion; MEDLINE=93265912; Minakata H., Iked "Wwamide-1, 2 anglia of the Af FEBS Lett. 323:10 Neuropeptide; Ani MOD_RES SEQUENCE 7 AA; | LLT 1 2.ACHFU WWA2.ACHFU P35920; 01-JUN-1994 01-JUN-1994 01-CT-1994 | 335 335 335 336 336 336 336 336 336 |
| ryota; lina fu inacea TaxID= Pange E-Gang IE-Gang INE=932 INE=932 INE=932 INE=932 ILE of Lett Lett Lett ILE of ILE | CHFU 1-1994 1-1994 1-1994 | |
| Achatina (Giant Eukaryota; Metazoa; Mol Eukaryota; Metazoa; Mol Achatinida (CBL TaxID-6530; [1] SEQUENCE. TISSUE-Ganglion; PubMe Minakata H., Ikeda T., and -3: "Wamanide-1, -2 and -3: FEBS Left. 323:104-108 (Neuropeptide; Amidation MOD_RES 7 AA; 964 M | STA (Rel. (Rel. (Rel. | 111111111111111111111111111111111111111 |
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| African Illusca; G ae; Achat Muneoka novel ne giant sn (1993). n. AMM; 7362 | | |
| Achatina fulica (Giant African snail). Achatinacea: Metazoa; Mollusca; Gastropoda; Pu Achatinacea: Achatinidae; Achatina. NCBL_TaxID=6530; [1] TISSUE=Ganglion; MEDLINE=93265912; PubMed=8495720; MEDLINE=93265912; PubMed=8495720; Minakata H., Ikeda T., Muneoka Y., Kobayashi "WManide-1, -2 and -3: novel neuromodulatory ganglia of the African giant snail, Achatina FEBS Lett. 323:104-108(1993). Neuropeptide; Amidation. MOD_RES 7 AMIDATION. SEQUENCE 7 AA; 964 MW; 7362D5B68BD32310 | ALIGNMENTS PRT; 7 AA. Led) sequence update) annotation update | HTF2_PERAM PLP_BRANA RS10_CONGE CONG_CONGE D1_NEPNO DCML_PSECF DSIP_RABIT FAR4_CALVO FIBB_MACFU FIBB_MACFU LITGU LITGU LITR_PHYRO OXYT_CYPCA |
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| SEQUENCE. SEQUENCE. TISSUE-Ganglion; MEDLINE-93265912; PubMed-8495720; MEDLINE-93265912; PubMed-8495720; Minakata H., Ikeda T., Muneoka Y., Kobayashi M., Nomoto K.; "Wwanide-1, -2 and -3: novel neuromodulatory peptides isolated from ganglia of the African giant snail, Achatina fulica."; FEBS Lett. 323:104-108(1993)i- FUNCTION: EXHIBITS MODULATORY EFFECTS ON THE PERIPHERAL NERVOUS SYSTEM. INHIBITS ACTIVITY ON A CENTRAL NEURON. | 4 (Rel. 29, Created) 4 (Rel. 29, Last sequence updat 4 (Rel. 30, Last annotation upoulica (Giant African snail). Metazoa; Mollusca; Gastropoda a; Achatinidae; Achatina. | QY 4 WNOMNL 9 :: Db 1 WKQMSV 6 RESULT 2 WWA1_ACHFU STANDARD; PRT; 7 AA. | Query Match 41.1%; Score 23; DB 1; Length 7; Best Local Similarity 50.0%; Pred. No. 9.3e+04; Matches 3; Conservative 2; Mismatches 1; Indels 0; Gaps 0; |

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52.5K protein - spiny lobster (fragment)
61.5Pecies: Panulirus argus (spiny lobster)
62.5Recies: Panulirus argus (spiny lobster)
62.6Accession: $784.6

82.5Recies: 14-Apr-1998 #sequence_revision 24-Apr-1998 #text_change 19-May-2000
62.6Accession: $784.6

82.5Recies: 14-Apr-1998 #sequence_revision 24-Apr-1998 #text_change 19-May-2000
62.6Accession: $784.6

82.5Recies: 14-Apr-1998 #sequence contains a major form of p450, CYP2L, in the hepatopancreas
82.5Reference number: $68856; MUID:96201120
82.5Recies: 14-Apr-1998 #sequence of a major form of p450, CYP2L, in the hepatopancreas
82.5Recies: 14-Apr-1998 #sequence of a major form of p450, CYP2L, in the hepatopancreas
82.5Recies: 14-Apr-1998 #sequence of a major form of p450, CYP2L, in the hepatopancreas
82.5Recies: 14-Apr-1998 #sequence_revision: $78426
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J. Exp. Med. 173, 395-407, 1991
A;Title: Preferential utilization of specific immunoglobulin heavy chain diversity and A;Reference number: PT0222; MUID:91108337
A;Accession: PT0299
A;Kolecule type: DNA
A;Residues: 1-9 < YANY
A;Experimental source: B lymphocyte
C;Keywords: heterotetramer; immunoglobulin
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A;Residues: 1-9 <JAM>
A;Experimental source: hepatopancreas microsomes
Search completed: October 23, 2001, 13:29:50 Job time: 168 sec
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c, species: Bacillus sp.
C;Date: 19-May-1994 #sequence_revision
C;Accession: PN0649
R;Kin, C.H.; Choi " -
Biocci
        C;Accession: A39308
R;Stadtman, T.C.; Davis, J.N.
R;Stadtman, T.C.; Davis, J.N.
J. Biol. Chem. 266, 22147-22153, 1991
A;Title: Glycine reductase protein C. Properties A;Reference number: A39308; MUID:92042141
A;Accession: A39308
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                  acylase - Kluyvera cryocrescens C;Speckes: Kluyvera cryocrescens C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change C;Accession: S19288
R;Martin, J: Slade, A; Altken, A.; Arche, R.; Virden, R. Blochem. J. 280, 659-662, 1991
A;Title: Chemical modification of serine at the active site of p
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Biosci. Biotechnol. Biochem. 57, 1632-1637, 1993
A;Title: Purification and biochemical properties
A;Reference number: PN0649; MUID:94080025
A;Accession: PN0649
                                                                                                     glycine reductase (EC 1.4.99.-) sulfhydryl protein C, alpha chain - Clostridium C;Species: Clostridium sticklandii C;Decies: Clostridium sticklandii C;Date: 19-Jun-1992 #sequence_revision 19-Jun-1992 #text_change 15-Aug-1997 C;Accession: A39308
                                                                                                                                                                   RESULT
A39308
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A; Accession: S19288
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A;Residues: 1-7 <KIM>
C;Comment: This enzyme is used togther with glucoamylase to
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Pred. No. 2.26
1; Mismatches
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1; Mismatches 0;
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Ig heavy chain CRD3 region (clone 5-103B) - human (fragment) (Species: Homo sapiens (man) C:Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_cha C:Accession: PT0299
                                                                     RESULT
PT0299
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Proc. Natl. Acad. Sci. U.S.A. 88, 6117-6121, 1991
A;Title: Anionic subsites of the catalytic center of acetylcholinesterase from Torped A;Reference number: A41117; MUID:91296772
A;Accession: A41117
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                                                                                                                                                                                                                                                                                                                                                                     J. Exp. Med. 173, 395-407, 1991
A;Title: Preferential utilization of specific immunoglobulin heavy chain diversity A;Reference number: PT0222; MUID:91108337
A;Accession: PT0272
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C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993
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C;Speckes: Naja naja oxiana (Asian cobra, Oxus cobra)
C;Date: 27-Mar-1992 #sequence_revision 27-Mar-1992 #t
C;Accession: A41117
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A; Residues: 1-9 < YAM>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ig heavy chain CRD3 region (clone 3-103B) - human (fragment)
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100.0%; Pred. No.
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3. 2.2e+05;
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R.Schoofs, L.; Holman, G.M.; Hayes, T.K.; Nacnman, R. Regul. Pept. 36, 111-119, 1991

A.Title: Isolation, identification and synthesis of A.; Reference number: A60065; MUID:92179466

A.; Accession: A60065
                                                                                                                          A;Molecule type: protein
A;Residues: 1-9 <SCH>>
C;Comment: This peptide hormone suppresses s
C;Superfamily: locustamyoinhibiting peptide
C;Keywords: amidated carboxyl end; hormone
F;9/Modified site: amidated carboxyl end (Tx
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A;Accession: F41946
A;Status: preliminary; not c
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A; Title: Rearrangement and junctional site s
A; Reference number: A41946; MUID:92049316
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A;Title: wWaemide-1, -2 and -3: novel neuromodulatory A;Reference number: S33244; MUID:93265912
A;Accession: S33245
         δõ
                                                                                                                                                                                                                                                                                                                         locustamyoinhibiting peptide - migratory locust
C;Species: Locusta migratoria (migratory locust)
C;Date: 31-Mar-1993 #sequence_revision 31-Mar-1993 #text_change 20-Mar-1998
C;Accession: A60065
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A; Residues: 1-6 <WHE>
C; Keywords: T-cell receptor
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C;Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 07-May-1999
C;Accession: F41946
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A;Molecule type: protein
A;Residues: 1-7 <MIN>
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C;Species: Achatina fulica (giant African snail)
C:Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 24-Jul-1997
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                                                                                                                                                                                                                                                                                                        G.M.; Hayes, T.K.; Nachman, R.J.; De Loof,
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gut pentapeptide - Japanese eel
C;Species: Anguilla japonica (Japanese
C;Date: 31-Mar-1992 #sequence_revision
C;Accession: JH0253
A; Experimental source: gut C; Comment: This peptide increased basal tone of the circular muscle , and of the circular muscle of the gastro-intestinal junction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R; Lorenz, M.W.; Kellner, R.; Hoffm
J. Biol. Chem. 270, 21103-21108, 1
A; Title: A family of neuropeptides
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A;Molecule type: protein
A;Residues: 1-9 <LOR>
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J. Biol. Chem. 270, 21103-21108, 1955
A;Title: A family of neuropeptides that inhibit juvenile hormone biosynthesis in A;Reference number: A57444; MUID:95403341
A;Accession: A57444
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C;Species: Gryllus bimaculatus (two-spotted cricket)
C;Date: 26-Jan-1996 #sequence_revision 26-Jan-1996 #text_change
C;Accession: A57444
                                                     A; Molecule type: protein A; Residues: 1-5 <UES>
                                                                                         Biochem. Biophys. Res. Commun. 180, 828-832, 1991 A;Title: Structure and function of a pentapeptide A;Reference number: JH0253; MUID:92062113 A;Accession: JH0253
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A;Molecule type: protein
A;Residues: 1-9 <LOR>
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| Query Match Best Local Similarity 33.3%; Pred. No. 2.2e+05; Matches 2; Conservative 3; Mismatches 1 Oy 4 WNQMNL 9 : : : Db 1 WKEMSV 6 | RESULT 2 \$33244 neuromodulatory peptide WWamide-1 - giant African snail) C; Species: Achatina fulica (giant African snail) C; Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #: C; Accession: \$33244 R; Minakata, H.; Ikeda, T.; Muneoka, Y.; Kobayashi, M FEBS Lett. 323, 104-108, 1993 A; Title: WWamide-1, -2 and -3: novel neuromodulatory A; Reference number: \$33244; MUID:93265912 A; Accession: \$33244 A; Status: preliminary A; Residues: 1-7 < MIN> | Query Match Best Local Similarity 50.0%; Pred. No. 2.2e+05; Matches 3; Conservative 2; Mismatches 1 Qy 4 WNQMNL 9 Db 1 WKQMSV 6 | RESULT 1 S33246 neuromodulatory peptide WWamide-3 - glant African sn. C;Species: Achatina fulica (glant African snail) C;Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 # C;Accession: S33246 R;Minakata, H.; Ikeda, T.; Muneoka, Y.; Kobayashi, M FEBS Lett. 323, 104-108, 1993 A;Title: WWamide-1, -2 and -3: novel neuromodulatory A;Reference number: S33244; MUID:93265912 A;Accession: S33246 A;Status: preliminary A;Residues: 1-7 <min></min> | ALIGNMENTS | 30 13 23.2 8 2 A58641 31 13 23.2 8 2 A38887 32 13 23.2 9 2 D28854 33 13 23.2 9 2 E28854 34 13 23.2 9 2 E28854 35 13 23.2 9 2 E728854 36 12 21.4 4 2 PT0661 37 12 21.4 5 2 PT0681 39 12 21.4 5 2 PT0881 40 12 21.4 6 2 S66195 41 12 21.4 6 2 S66195 42 12 21.4 6 2 PT0519 43 12 21.4 6 2 PT0519 43 12 21.4 6 2 PT0519 44 12 21.4 6 2 PT0519 45 12 21.4 7 2 A61081 46 12 21.4 7 2 B39127 47 155382 |
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| Length 7; ; Indels 0; Gaps 0; | <pre>inail #text_change 24-Jul-1997 M.; Nomoto, K. ry peptides isolated from ganglia o</pre> | Length 7; ; Indels 0; Gaps 0; | <pre>#text_change 24-Jul-1997 #.; Nomoto, K. ry peptides isolated from ganglia o .</pre> | | adipokinetic hormo T-cell receptor ga fibrinopeptide B - fibrinopeptide B - fibrinopeptide B - fibrinopeptide B - neuropeptide Grb-A T-cell receptor be neuropeptide - sea Ig heavy chain CRD alcohol dehydrogen dihydrofolate redu locustakinin - mig T-cell receptor be tryptophyllin, bas phosphotransferase hypothetical pepti |

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A.TELE: Mino acid sequence of glutathione S-transferase b from guinea plg liver.

A.Recession: JN095; MUID:90236961

A.Recession: JN095; MUID:90236961

A.Recession: J217 KRND

A.Recaidues: J217 KRND

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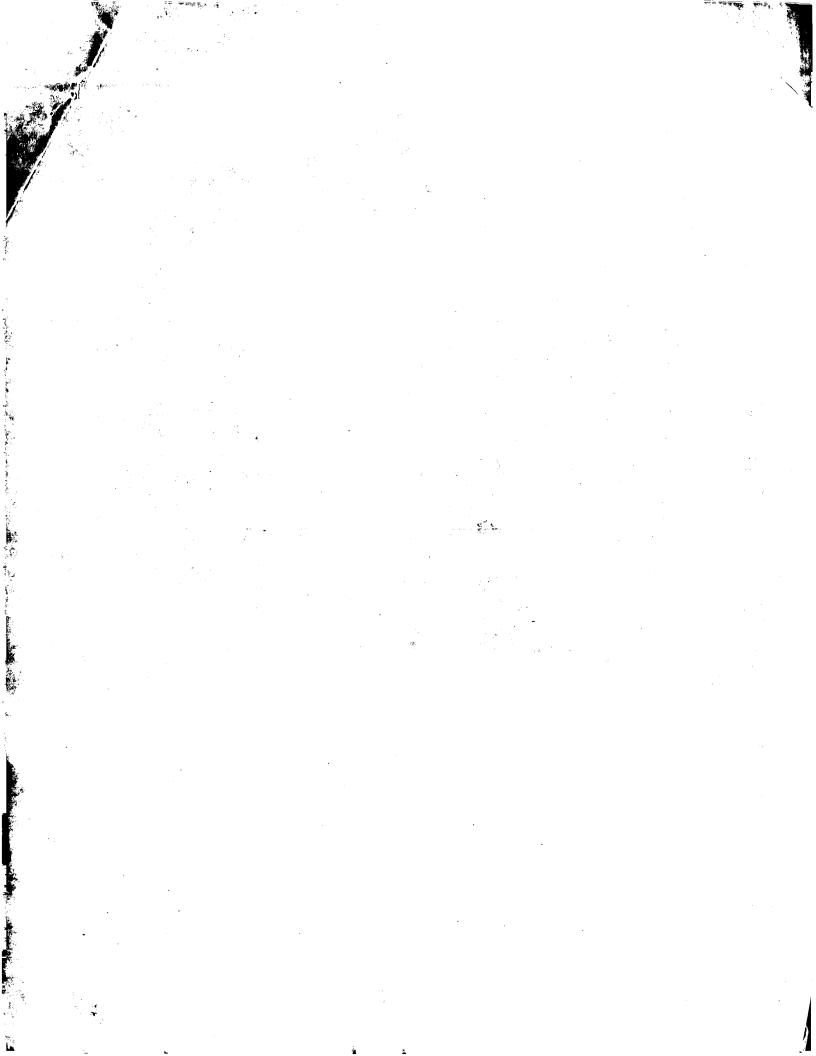
Matches 6; Conservative 0; Mismatches 1; Indels 0; Caps 0;

Oy 3 FPNAPYL 9

Db 56 FPNLPYL 62

Search completed: October 23, 2001, 13:22:05

JOb time: 118 sec
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Result
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US-08-102-942A-6
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US-09-150-133-3
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PCT-US95-05523-2
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| 64.7 | 64.7 | 64.7 | 64.7 | 64.7 | 64.7 | | | | 68.6 | | | | | | | | 70.6 |
| 377 | 376 | 376 | 376 | 376 | 376 | 267 | 842 | 380 | 380 | 380 | 380 | 380 | 618 | 618 | 618 | 618 | 618 |
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| US-09-150-133-5 | US-09-374-492-7 | US-09-374-824-7 | US-09-374-493-7 | US-09-150-141-7 | US-09-150-133-7 | US-08-301-162-16 | US-08-928-692-18 | US-09-374-492-9 | US-09-374-824-9 | US-09-374-493-9 | US-09-150-141-9 | us-09-150-133-9 | PCT-US96-12860-2 | US-08-569-749-2 | US-08-800-929A-8 | US-09-212-971-8 | US-08-511-485-8 |
| Sequence 5, Appli | Sequence 7, Appli | Sequence 16, Appl | Sequence 18, Appl | Sequence 9, Appli | Sequence 9, Appli | • | • | • | • | • | Sequence 8, Appli | Sequence 8, Appli | Sequence 8, Appli |

ALIGNMENTS

Juence 5, Application US/08102942A Patent No. 5726288 GENERAL INFORMATTON TELEFAX: 617-861-9540 INFORMATION FOR SEQ ID NO: 5: SEQUENCE CHARACTERISTICS: APPLICATION NUMBER: US/08/10: APPLICATION NUMBER: US/08/10: FILING DATE: 02-AUG-1993 CLASSIFICATION: 530 ATTORNEY/AGENT INFORMATION: NAME: Granahan, Patricia REGISTRATION NUMBER: 32,227 REFERENCE/DOCKET NUMBER: MITTELECOMMUNICATION INFORMATION: TELEPHONE: 617-861-6240 TYPE: amino acid STRANDEDNESS: not TOPOLOGY: linear MOLECULE TYPE: prote COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS APPLICANT: APPLICANT: APPLICANT: APPLICANT: APPLICANT: Housman, David E. APPLICANT: Bruening, Wendy APPLICANT: Darveau, Andre TITLE OF INVENTION: Localization and Characterization of the TITLE OF INVENTION: Wilms' Tumor Gene APPLICANT: APPLICANT: SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA: CORRESPONDENCE ADDRESS: NUMBER OF SEQUENCES: STREET: Two Militia I CITY: Lexington STATE: Massachusetts COUNTRY: U.S. LENGTH: ADDRESSEE: 02173 E: Hamilton, Brook, Two Militia Drive 154 amino acids Pelletier, Jerry Haber, Daniel A. Rose, Elise A. Glaser, Thomas Buckler, Alan J. Ito, Call, Katherine protein not relevant Caryn US/08/102,942A MIT-5194A2 Smith & Reynolds, P.C

TITLE OF INVENTION: Use Therefor

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; MOLECULE TYPE: US-08-234-783-2
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                                                                                                                                     US-08-456-907-2
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                                                                                    Sequence 2, Application US/08456907 Patent No. 5633142 GENERAL INFORMATION:
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Best Local Similarity

Matches 9; Conserv
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Best Local Similarity 100.0%;
Matches 9; Conservative 0
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SEQUENCE CHARACTERISTICS:
                                                      APPLICANT:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-540-9200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STREET: Spring House
CITY: Spring House
STATE: Pennsylvania
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Bak, Mary E.
TITLE OF INVENTION:
                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: WT1 Monoclonal Antibodies and Methods of TITLE OF INVENTION: Use Therefor NUMBER OF SEQUENCES: 7
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                  Herlyn, Meenhard
Morris, Jennifer
Rauscher III, Frank J.
Rodeck, Ulrich
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Rauscher III, Frank J.
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      WT1 Monoclonal Antibodies and Methods of
                                                                                                                                                                                                                                                                                   100.0%; Score 51; DB 1; Length 210; 100.0%; Pred. No. 0.042;
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Pred. No.
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; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-456-907-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PCT-US95-05523-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2, Application PC/TUS9505523 GENERAL INFORMATION:
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CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNMBER: US 08/234,783
FILING DATE: 28-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: Bak, Mary E.
REGISTRATION NUMBER: 31,215
REGISTRATION NUMBER: WST48AUSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: 215-540-92
TELEFAX: 215-540-5818
INFORMATION FOR SEQ ID NO:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/234,783
FILING DATE: 28-APR-1994
                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                  ZIP: 19477
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: The Wistar Institute of Anatomy and Biology TITLE OF INVENTION: WTl Monoclonal Antibodies and TITLE OF INVENTION: Methods of Use Therefor
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APPLICATION NUMBER: US/08/456,90
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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CORRESPONDENCE ADDRESS:
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                                                                              APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                             COUNTRY: USA
ZIP: 19477
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                                                                                                   PCT/US95/05523
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Best Local Similarity
Matches 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2,
                                    TELEFAX: 617-801-911
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
SEQUENCE SAMINO acids
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/102,942A
FILING DATE: 02-AUG-1993
CLASSIFICATION: 530
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Bruening, Wendy
APPLICANT: Darveau, Andre
TITLE OF INVENTION: Localization and Characterization of the
TITLE OF INVENTION: Wilms' Tumor Gene
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
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APPLICANT:
APPLICANT:
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                                                                                                                     TELEPHONE: 617-861-6240
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TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-540-9200
                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRAFION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: MIT-5194A2
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LENGTH: 210 amino acid
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MOLECULE TYPE: protein
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                LENGTH: 345 amino TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: Two Mil. CITY: Lexington
                                                                                                                   TELEPHONE:
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amino acid
DGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pelletier, Jerry
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Buckler, Alan J.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hamilton, Brook, Smith & Reynolds, P.C
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Best Local S
Matches 9
                                                                             Sequence 4, Application US/08456907 Patent No. 5633142
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Sequence 5622835
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                                                              GENERAL INFORMATION:
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TELEFAX: 215-540-5818
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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                APPLICANT:
APPLICANT:
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REFERENCE/DOCKET NUMBER: WS'
TELECOMMUNICATION INFORMATION:
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/234,783
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ATTORNEY/AGENT INFORMATION:
NAME: Bak, Mary E.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Rodeck, Ulrich
TITLE OF INVENTION: WT1 Monoclonal Antibodies and Methods of
TITLE OF INVENTION: Use Therefor
NUMBER OF SEQUENCES: 7
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 APPLICANT:
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OPERATING SYSTEM:
                                                                                                                                                                                                                                            Local Similarity nes 9; Conserv
                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
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les 9; Conserv
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Herlyn, Meenhard
Morris, Jennifer
Rauscher III, Frank J.
Rodeck, Ulrich
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Rauscher III, Frank J.
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SYSTEM: PC-DOS/MS-DOS
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100.0%; Pred. No.
vative 0; Mismatch
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                                                                                                                                                                                                                                                                                                                                               Sequence 4, Application PC/TUS9505523
GENERAL INFORMATION:
APPLICANT: The Wistar Institute of Anatomy and Biology
TITLE OF INVENTION: WTl Monoclonal Antibodies and
TITLE OF INVENTION: Methods of Use Therefor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORMATION FOR SEQ ID NO: 4:
                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE: 28-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: Bak, Mary E.
REGISTRATION NUMBER: 31,215
REFERENCE/DOCKET NUMBER: WST
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEPHONE: 215-540-9200
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 28-APR-1994
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
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TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                       SURREET: Spring House Corporate Cntr, PO Box 457 CITY: Spring House STATE: Pennsvlvanin
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TELEPHONE: Z15-540-5818
TELEPHONE: Z15-540-5818
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OPERATING SYSTEM: PC-DOS/MS-DOS
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                                    FILING DATE:
CLASSIFICATION:
                                                                       APPLICATION NUMBER:
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STREET: Spring House Corporate Cntr,
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                                                                       PCT/US95/05523
US 08/234,783
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Query Match
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US-08-102-942A-4
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                                                        TELEFAX: 617-861-9540
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 429 and a cid
                                                                                                                                                                                                                                 COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/102,942A
FILING DATE: 02-AUG-1993
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APPLICANT:
                                                                                                                REFERENCE/DOCKET NUMBER: MI
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-861-6240
                                                                                                                                                                   CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,
                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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ADDRESSEE: Hamilton, Brook
STREET: Two Militia Drive
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APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: Localization and Characterization of the TITLE OF INVENTION: Wilms' Tumor Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 28-APR-1994
ATTORNEY/AGENT INFORMATION:
MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
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                               TYPE:
                                                                                                                                                                                                                                                                                                                                                                          ZIP: 02173
                                                                                                                                                                                                                                                                                                                                                                                                          STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                             CITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: amino acid
TOPOLOGY: linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REGISTRATION NUMBER:
                                               LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 RMFPNAPYL 9
                                                                                                                                                                                                                                                                                                                                                                                                                             Lexington
                             amino acid
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                                                 449 amino acids
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Darveau, Andre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Haber, Daniel Rose, Elise A.
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Haber, Daniel A.
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Buckler, Alan J.
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                 linear
protein
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                                                                                                                                                                32,227
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                                              Query Match
Best Local Similarity
"hehes 9; Conserva
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Best Local Similarity
Matches 9; Conser
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                                                                                                                                                                                                                                                    TELEFAX: 617-861-9540 INFORMATION FOR SEQ ID NO: 6:
                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/102,942A FILING DATE: 02-AUG-193
CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: MIT-5194A2
                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/102,942A
                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
LENGTH: 449 amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANY: Darveau, Andre
TITLE OF INVENTION: Localization and Characterization
TITLE OF INVENTION: Wilms' Tumor Gene
NUMBER OF SEQUENCES: 8
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126 RMFPNAPYL 134
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                                                                                                                                                                                                      TYPE: amino acid
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                   1 RMFPNAPYL 9
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                                                                                                                                                                                                                   449 amino acids
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Rose, Elise A.
Housman, David E.
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Haber, Daniel A.
                                                              Conservative
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Pred. No.
                                                             Score 51; DB 1; Pred. No. 0.094; Mismatches
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                                                                                         DB 1; Length 449;
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TITLE OF INVENTION: Neuronal Apoptosis Inhibitor Protein, Gene Sequence and Patent No. 6020127
TITLE OF INVENTION: Mutations Causative of Spinal Muscular Atrophy FILE REFERENCE: 3477-112, 033477/139914
CURRENT APPLICATION NUMBER: US/08/836,134A
CURRENT FILING DATE: 1997-06-20
NUMBER OF SEQ ID NOS: 23
SOFTWARE: Patentin Ver. 2.0
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APPLICATION NUMBER: US/U8/7,,

FILING DATE: 20-NOV-1997

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 60/031,4

FILING DATE: 20-NOV-1996

ATTORNEY/AGENT INFORMATION:

NAME: Adler, Reid G.

NAME: ONLY NUMBER: 30,988
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Best Local Similarity
Matches 6; Conserv
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Patent No. 6020
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                                                                                                                                                     APPLICANT: Korneluk, Robert G.
APPLICANT: Mahadevan, Mani S.
APPLICANT: McLean, Michael
APPLICANT: Roy, Natalle
APPLICANT: Ikeda, Joh-e
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APPLICANT: Altieri,
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                  APPLICANT: Mackenzie,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: 202-467-700
TELEFAX: 202-467-7176
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REGISTRATION NUMBER: 30,988
REFERENCE/DOCKET NUMBER: 04-
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-467-7000
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MEDIUM TYPE: Floppy disk
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TYPE: amino acid
STRANDEDNESS:
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CITY: Washington
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20036-5869
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1800 M Street, N.W.
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SYSTEM: PC-DOS/MS-DOS
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66.7%;
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1; Mismatches
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Best Local Similarity
6; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Homo sapiens US-08-836-134-2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: Neuronal Apoptosis Inhibitor Protein, Gene Sequence Patent No. 6030127
TITLE OF INVENTION: Mutations Causative of Spinal Muscular Atrophy FILE REFERENCE: 3477-112, 033477/139914
CURRENT APPLICATION NUMBER: US/08/836,134A
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SEQ ID NO 2
LENGTH: 1232
                                                                                                                                                                                                                                                                                                                                                      Patent No.
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Best Local Similarity
Matches 6; Conserv
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                                                                                                                                                                                                                                          APPLICANT: Korneluk, Robert APPLICANT: Mackenzie, Alexa APPLICANT: Baird, Stephen TITLE OF INVENTION: MAMMALI TITLE OF INVENTION: PROBES, 2008
                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Mackenzie, Alex E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
                COUNTRY: USA
ZIP: 02110-2804

ZIP: 02110-2804

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                            STREET: 225 F
CITY: Boston
STATE: MA
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                                                                                                                                                                                225 Franklin Street
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                                                                                                                                                                                                                                               MAMMALIAN IAP GENE FAMILY, PRIMERS, PROBES, AND DETECTION METHODS
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66.7%;
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66.7%;
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Pred. No.
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Pred. No.
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                               INFORMATION FOR SEQ ID NO: 33:
                                                                                                                                                                                         APPLICATION NUMBER: US/08,
FILING DATE: August 26, 19
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Reed, Janet E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEX: 200154
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
TOPOLOGY: linear MOLECULE TYPE: protein -297-431B-33
                                                                              SEQUENCE CHARACTERISTICS:
                                                                                                                                            REFERENCE/DOCKET NUMBER: WA
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Fahl, William E
APPLICANT: Gulick, Andrew I
APPLICANT: Manoharan, T He
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 67 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELECOMMUNICATION INFORMATION: TELEPHONE: 617/542-5070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION: NAME: Clark, Paul T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION:
                                              TYPE:
                                                                                               TELEPHONE: Z15 TELEPHONE: Z15-972-2292
                                                                                                            TELEFAX:
                                                                                                                                                                              NAME: Reed, Janet E. REGISTRATION NUMBER: 36252
                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: US
ZIP: 19102-2186
                                                                                                                                                                                                                                                                                                                                                                                                        CITY: Philadelphia
STATE: PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: 617/542-8906
                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
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REFERENCE/DOCKET NUMBER: 07
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                                                             LENGTH:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
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                                             amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                    E: Saul, Ewing, Remick & Saul, LLP 1500 Market Street, 38th Floor
                                                             217 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gulick, Andrew M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wasserman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kramer, Katharine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Puchalski, Ralph B
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August 26, 1994
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Query Match
Query Match
Best Local Similarity 85.7%; Pred. No. 20;
Matches 6; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Search completed: October 23, 2001, 13:21:32

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Perfect score:
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2: /cgn2_6/ptodata/2

3: /cgn2_6/ptodata/2

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    Query
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/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/backfiles1.pep:*
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      US-08-177-109A-24

US-08-687-706-24

US-08-444-818-433

US-08-444-818-434

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US-08-448-318-7

US-09-484-318-7

US-09-484-319-7

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                                                                                                        US-08-737-085A-6
US-09-246-258-6
US-09-527-106-6
US-09-527-1059-65-12
PCT-US94-03744-6
US-08-611-877B-88
US-08-261-525A-6
US-08-2417-174-13
US-08-2417-65A-13
US-08-07-961-13
US-08-159-339A-393
US-08-159-339A-393
US-09-161-877B-24
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US-09-161-877B-26
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Sequence 26, Appl
Sequence 6, Appli
Sequence 6, Appli
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Sequence 12, Appli
Sequence 12, Appli
Sequence 28, Appli
Sequence 28, Appli
Sequence 13, Appli
Sequence 13, Appli
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Sequence 24, Appli
Sequence 434, Appli
Sequence 11, Appli
Sequence 7, Appli
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US-09-162-368B-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patent No. 6083703
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 26, Application Patent No. 6083703
              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: WANG, R.F.; ROSENBERG, S. A.
TITLE OF INVENTION: IDENTIFICATION OF TRP-2 AS
TITLE OF INVENTION: A HUMAN TUMOR ANTIGEN RECOGNIZED BY CYTOTOXIC TITLE OF INVENTION: LYMPHOCYTES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                     LENGTH:
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ZIP: 101
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| 161 | US-09-161-877B-12 | US-08-599-226-19 | US-08-599-226-14 | US-09-162-368B-30 | US-09-162-368B-12 | US-08-725-736D-12 | US-08-665-647-51 | US-08-541-964-36 | US-08-594-447-37 | PCT-US94-01321-69 | US-08-968-676-158 | US-07-880-216-1 | US-09-161-877B-25 | US-09-162-368B-25 | US-09-325-769-8 | US-09-484-323-7 | US-09-484-321-7 |
| • | Sequence 12, Appl | Sequence 19, Appl | Sequence 14, Appl | • | 12, | 12, | • | Sequence 36, Appl | • | Sequence 69, Appl | Sequence 158, App | Sequence 1, Appli | Sequence 25, Appl | Sequence 25, Appl | Sequence 8, Appli | Sequence 7, Appli | Sequence 7, Appli |

ALIGNMENTS

US/09162368B

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COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: MICROSOFT WORD 97
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/162,368B
FILING DATE: 28-SEPT-1998
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/725,736
FILING DATE: 04-CCT-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/599,602
FILING DATE: 09-FEB-1996
ATTORNEY/AGENT INFORMATION:
NAME: KATHRYN M. BROWN
REGITERATION NUMBER: 34.556
                                                                                                                  INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                      MOLECULE TYPE:
                                                                                                                                                                                        TELECOMMUNICATION INFORMATION: TELEPHONE: (212) 758-4800
DESCRIPTION:
                                      STRANDEDNESS:
TOPOLOGY: UN
                                                                                                                                                      TELEFAX: (212)
TELEX: 421792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 345 PA:
CITY: NEW YORK
STATE: NEW YOR
                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER:
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                                                                            AMINO ACID
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                                                                                                                                                                          (212) 751-6849
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                                        UNKNOWN
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  PEPTIDE
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; LOCATION:
; IDENTIFICATION METHOD:
; OTHER INFORMATION:
US-09-162-368B-26
                                                                     ; IDENTIFICATION METHOD: ; OTHER INFORMATION: US-09-161-877B-26
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US-09-161-877B-26
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Query Match —
Best Local Similarity
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Best Local Similarity
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APPLICANT: WANG, R.F.; ROSENBERG, S. A.
TITLE OF INVENTION: IDENTIFICATION OF TRP-2
TITLE OF INVENTION: AS A HUMAN TUMOR ANTIGEN RECOGNIZED BY
TITLE OF INVENTION: CYTOTOXIC T LYMPHOCYTES
                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 08/599,602
APPLICATION NUMBER: 09-FEB-1996
ATTORNEY/AGENT INFORMATION:
NAME: KATHRYN M. BROWN
REGISTRATION NUMBER: 34,556
REFERENCE/POCKET NUMBER: 2026-42
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEFAX: (212) 751-6849
TELEFAX: (212) 751-6849
                                                                                                                                                                                                                                                                                 TELEX: 421792
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: MICROSOFT WORD 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/725,736
FILING DATE: 04-OCT-1996
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                                                                                                                                                                                                  MOLECULE TYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
                                                                                                                                                                                                           TYPE: AMINO ACID
STRANDEDNESS: UNK
TOPOLOGY: UNKNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 345 PARK AVENUE CITY: NEW YORK STATE: NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: FILING DATE: 28-SE
                                                                                                                            LOCATION:
                                                                                                                                                                              DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                             NAME/KEY:
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                                                                                                                                                                                                                                                                  ENGTH:
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                                                                                                                                                                                                                 UNKNOWN
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28-SEPT-1998
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                                                                                                                                                                                                                                 UNKNOWN
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57.1%;
   54.9%;
57.1%;
                                                                                                                                                                                                                                                                                                       26:

    Mismatches

 Score 28;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                            2026-4243US2
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Pred. No. 1.5e+05;
   DB 4;
                Length 9;
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RESULT 4
US-09-246-258-6
Sequence 6, Application US/09246258
Patent No. 6040137
GENERAL INFORMATION:
APPLICANT: SALLBERG, MATTI
TITLE OF INVENTION: ANTIGEN/ANTIBOUTION: EXCHANGER
NUMBER OF SEQUENCES: 23
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
NUMBER OF SEQUENCES: DARBY & DARBY PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
"~+~hes 5; Conserv?
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US-08-737-085A-6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
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APPLICANT: SALLBERG
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEX: 236687
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION: TELEPHONE: 212-527-7659
TELEFAX: 212-753-6237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: Green, Reza
REGISTRATION NUMBER: 38,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08
FILING DATE: 27-DEC-1996
CLASSIFICATION: 426
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS: DARBY & DARBY &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 38,475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IBM Compatible
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83.3%;
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                                                                                                                                      ANTIGEN/ANTIBODY SPECIFICITY
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                                                                                                                                                                                                                                                                                                                                                                   Sequence 6, Application US/09532106
Patent NO. 6245895
GENERAL IMPORMATION:
APPLICANT: SALLBERG, MATTI
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Best Local Similarity
Matches 5; Conserv
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REGISTRATION NUMBER: 38,475
REFERENCE/DOCKET NUMBER: 3846
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-527-7659
TELEPAX: 212-753-6237
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: FastSEQ for CURRENT APPLICATION DATA: APPLICATION NUMBER: US FILING DATE:
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LENGTH: 8 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
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MEDIUM TYPE: Diskette
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 PNAPIL 7
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                                                  CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/532,106
FILING DATE: 21-Mar-2000
PRIOR APPLICATION DATA:
                                                                                                                                                            ZIP: 10022
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
APPLICATION NUMBER: US/08/737,085A FILING DATE: 27-DEC-1996 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: DARBY & DARBY PC
                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: ANTIGEN/ANTIBODY SPECIFICITY
                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
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                                                                                                             OPERATING SYSTEM: DOS SOFTWARE: FastSEQ for Windows Version
                                                                                                                                                                                                                                 CITY: New York
STATE: New York
                                                                                                                                                COMPUTER: IBM Compatible
                                                                                                                                                                                                                   COUNTRY: USA
                                                                                                                                                                                                                                                                     STREET:
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                                                                                                                                                                                                                                                                    805 Third Avenue
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83.3%;
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Pred. No. 1
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1.5e+05;
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RESULT 6
US-08-672-805-12
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Best Local Similarity
"hthes 5; Conserv:
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                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: GLDlin, James A.
REGISTRATION NUMBER: 25772
REFERENCE/DOCKET NUMBER: MSB-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (510)705-7910
TELEPHONE: (510)705-7904
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 12,
Patent No. 5
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                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
              STRANDEDNESS:
TOPOLOGY: li
MOLECULE TYPE:
                                                                                                                                                                                                                                                                 FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                   APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                              OPERATING SYSTEM:
SOFTWARE: WordPer
                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: P. O. Box 1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                         ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 PNAPIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4 PNAPYL 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REGISTRATION NUMBER: 38,475
REFERENCE/DOCKET NUMBER: 384
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-527-7659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: linear MOLECULE TYPE: peptide SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 8 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2, Application US/08672805 5831003
                                                                                                                                                                                                                                                                                                                                                                                                                             94701-1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Berkeley
California
                                                           amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: 212-527-76
TELEFAX: 212-753-6237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEX: 236687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E: Bayer Corporation
800 Dwight Way
                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hammond, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Baumbach, George A.,
Buettner, Joseph A.,
Dadd, Christopher A.,
                                                                                                                                                                                                                                                                                                                                                WordPerfect 6.1
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                               linear
                                                                                                                                                                                                                                                                                                                                                                                IBM
                                                                                                                                                                                                                                                                                                                                                                                            Diskette,
peptide
                                            single strand
                                                                                                                                                                                                                                                                                                                                                                DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Thrombin
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83.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptides Which Bind to Prothrombin and
                                                                                                                                                                                                                                                                                                                  US/08/672,805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21
                                                                                                                                                                                                                                                                                                                                                                                             3.50 inch, 1.44Mb Storage
                                                                                                                                                                       MSB-7236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
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Pred. No. 1.5e+05;
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US-09-162-368B-28

Sequence 28, Application US/09162368B
Patent No. 6083703
GENERAL INFORMATION:
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; STRANDEDNESS: sir
; TOPOLOGY: linear
PCT-US94-03744-6
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                                                                  RESULT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                            Matches
                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 6, Application PC/TUS9403744 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/0
APPLICATION OP-APR-1993
ATTORNEY/AGENT INFORMATION:
NAME: MURASHIGE, KATE H.
                                                                                                                                                                                                                                                                                                                                                  NFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: PETRI, WILLIAM A.
APPLICANT: MCCOY, JAMES J.
APPLICANT: MANN, BARBARA J.
TITLE OF INVENTION: 35/31 KDA SUBUNIT OF THE
TITLE OF INVENTION: ENTAMOEBA
TITLE OF INVENTION: HISTOLYTICA ADHERENCE LEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                            REGISTRATION NUMBER: 29,959
REGISTRATION NUMBER: 29148-20005.00
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 887-1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: (202) 887-0763
TELEFAX: (202) 887-0763
TELEX: 90-4030
TELEX: 90-4030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
nes 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
                                                                                                                                             4 PNAPY 8
                                                                                                                                                                                                                                                                                                                     ENGTH:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20006-1812
                                                                                                                                                                                                                                                                                                                   8 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          E: Morrison & Foerster
2000 Pennsylvania Avenue,
                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USA
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                                                                                                                                                                                                                                                                                      single
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83.3%;
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                                                                                                                                                                          Score 25; DB Pred. No. 1.5e 0; Mismatches
                                                                                                                                                                              0;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Suite 5500
                                                                                                                                                                                                           DB 5;
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                                                                                                                                                                                            .5e+05;
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                                                                                                                                                                            Gaps
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Sequence 28, Application US/09161877B

Patent No. 6132980

GENERAL INFORMATION:
APPLICANT: WANG, R.F.; ROSENBERG, S. A.
TITLE OF INVENTION: IDENTIFICATION OF TRP
TITLE OF INVENTION: AS A HUMAN TUMOR ANTI-
TITLE OF INVENTION: CYTOTOXIC T LYMPHOCYT
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORGAN & FINNEGAN, L.L.P.
                                                                                                                                                                                                        US-09-161-877B-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-162-368B-28
                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 80.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/09/162,368B
FILING DATE: 28-SEPT-1998
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/725,736
FILING DATE: 04-OCT-1996
PRIOR APPLICATION DATA:
APPLICATION UMBER: 08/599,602
FILING DATE: 09-FEB-1996
APPLICATION UMBER: 08/599,602
FILING DATE: 09-FEB-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEX: 421792
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC COMPA
OPERATING SYSTEM: PC-D
SOFTWARE: MICROSOFT WO
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 34 CITY: NEW YORK
CITY: NEW YORK
TRAFE: NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: 2026-4243US1
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCATION:
IDENTIFICATION METHOD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS:
TOPOLOGY: UN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: KATHRYN M. BROWN REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE:
                                                                                                                                                                                                                                                                                4 PGAPY 8
                                                                                                                                                                                                                                                                                                                 4 PNAPY 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AMINO ACID
345 PARK AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      345 PARK AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WANG, R.F.; ROSENBERG, S. A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      UNKNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IBM PC COMPATIBLE SYSTEM: PC-DOS/MS-DOS MICROSOFT WORD 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MORGAN & FINNEGAN, L.L.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       UNKNOWN
                                                                    IDENTIFICATION OF TRP-2
AS A HUMAN TUMOR ANTIGEN RECOGNIZED
CYTOTOXIC T LYMPHOCYTES
                                                                                                                                                                                                                                                                                                                                                                            49.0%;
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A HUMAN TUMOR ANTIGEN RE
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                                                                                                                                                                                                                                                                                                                                                        0;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                        Mismatches
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RECOGNIZED BY CYTOTOXIC
                                                                                                                                                                                                                                                                                                                                                                                         Length 9;
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COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK

CITY: NEW YORK STATE: NEW YORK

COUNTRY:

USA

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Query Match
Best Local Similarity
Athas 4; Conserve
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                                                                                                                                                                                                                                                                                                        Sequence 6, Application US/08261525A Patent No. 5569598
                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (212) 751-68
TELEX: 421792
INFORMATION FOR SEQ ID NO:
                                                                                     APPLICANT: LEE, Young Mee
APPLICANT: WON, Teug Yeon
APPLICANT: KWON, Soon Chang
APPLICANT: LEE, Seung Joo
APPLICANT: LEE, Seung Joo
APPLICANT: KIM, Jung Ho
APPLICANT: KIM, Bum Joon
TITLE OF INVENTION: NOVEL AMINOPEPTIDASE, PROCESSES FOR
TITLE OF INVENTION: PROTEIN THEREFROM
NUMBER OF SEQUENCES: 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: KATHRYN M. BROWN
REGISTRATION NUMBER: 34,556
REFERENCE/DOCKET NUMBER: 2026-4243US2
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/725,736
FILING DATE: 04-OCT-1996
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 08/599,602 FILING DATE: 09-FEB-1996 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARB: MICROSOFT WORD 97
CURRENT APPLICATION DATA:
                                                                    CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IDENTIFICATION METHOD: OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE: (214) ... (212) 751-6849
                              ADDRESSEE: PARK, Soon Jae
STREET: Lucky Apt. 6-101, Doryong-dong, Yuseong-gu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DESCRIPTION: PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS: UNKNOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/09/161,877B FILING DATE: 28-SEPT-1998 CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 PNAPY 8
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                   Daejeon
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Daejeon
                                                                                                                                                                                                                                                                      PARK, Soon Jae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
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80.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 25; DB 4;
Pred. No. 1.5e+05;
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LD NO.
ACTERISTICS:
7 amino acids
TOPOLOGY: linear
MOLECULE TYPE: perf
US-08-261-525A-6
Query Match
Best Local Similarity 66.7
Matches 4; Conservative
                                                                                                                                                                                                                                              OPERATING SYSTEM: WS-DOS
SOFTWARE: WORD Perfect 5.1
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/261,525.
FILING DATE: 17-JUN-1994
CLASSIFICATION DATA:
APPLICATION UNMBER: KR 93-11107
FILING DATE: 17-JUN-1993
ATTORNEY/ACENT INFORMATION:
                                                                                                                      TELEFAX: (212) 953-724:
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 7 amino acids
                                                                                                                                                                                             TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                        NAME: Shahan Islam
REGISTRATION NUMBER: 32
REFERENCE/DOCKET NUMBER:
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STREET: Yuseong-gu
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STREET: Gongjak Hanyang Apt. 3-1201, 835,
STREET: Tanbang-dong, Seo-gu
CITY: Daejeon
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CITY: Daejeon
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Shinsung Apt. 3-306, 28-4, Nae-dong, Seo-gu
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Shinsung Apt. 3-107,
                                                                                                                                                                     (212)
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Lucky Dormitory 502, 386-1, Doryong-dong,
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953-7249
             47.18;
66.78;
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Score 24; DB 1; Le
Pred. No. 1.5e+05;
0; Mismatches 2;
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Indels

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Gaps

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; TYPE: amino acid
; STRANDEDNESS: Unknown
; TOPOLOGY: Unknown
; MOLECULE TYPE: Peptide
US-08-417-174-13
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US-08-231-565A-13
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                                                                                                   Sequence 13, Application US/08231565A Patent No. 5874560 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                             Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 20
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
TELEPAX: (212) 751-6849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY DISK
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG,
APPLICANT: STEVEN A.
TITLE OF INVENTION: MELANOMA ANTIGENS AND
TITLE OF THVENTION: THEIR USE IN DIAGNOSTIC AND THERAPEUTIC
TITLE OF INVENTION: METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: MELANOMA ANTIGENS AND THERAPEUTIC TITLE OF INVENTION: THEIR USE IN DIAGNOSTIC AND THERAPEUTIC TITLE OF INVENTION: METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/231,565
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: KAWAKAMI, YUTAKA; ROSENBERG,
APPLICANT: STEVEN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: NEW YORK
STATE: NEW YORK
COUNTRY: USA
ZIP: 10154
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345 PARK AVENUE
                                                                                                                                                                                                                                                                                                                            Conservative
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US-09-007-961-13
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Best Local Similarity 100
Matches 4; Conservative
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,341
REFERENCE/DOCKET NUMBER: 2026
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
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MEDIUM TYPE: FLOPPY DISK
COMPUTER: IBM PC COMPATIBLE
COPERATING SYSTEM: PC-DOS/MS-D
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
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APPLICANT: STEVEN A.
TITLE OF INVENTION: MELI
TITLE OF INVENTION: THE:
TITLE OF INVENTION: METI
NUMBER OF SEQUENCES: 43
CORRESPONDENCE ADDRESS:
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TOPOLOGY: Unk
MOLECULE TYPE:
                                                                                                                                                       COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/007,961
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MEDIUM TYPE: FLOPPY DISK
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CLASSIFICATION:
PRIOR APPLICATION NUMBER: 'APPLICATION NUMBER: 'APPLICAT
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CORRESPONDENCE ADDRESS:
ADDRESSEE: MORGAN & FINNEGAN
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CITY: NEW YORK
STATE: NEW YORK
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TELEFAX: (212) 751-6849
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                                                                                                                          FILING DATE:
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100.0%; Pred. No. 1.5e+
tive 0; Mismatches
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        08/231,565
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; TYPE: amino acid
; STRANDEDNESS: Unknown
; TOPOLOGY: Unknown
; MOLECULE TYPE: Peptide
US-09-007-961-13
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US-08-159-339A-393
                                                                                                                              OPERATING SYSTEM: DOS

SOFTWARE: FASTSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/159,339A
FILING DATE: 29-NOV-1993
CLASSIFICATION 1424
PRIOR APPLICATION OATA:
APPLICATION NUMBER: US 07/926,666
APPLICATION NUMBER: US 07/926,666
FILING DATE: 07-AUG-1992
APPLICATION NUMBER: US 08/027,746
FILING DATE: 05-MAR-1993
APPLICATION NUMBER: US 08/103,396
FILING DATE: 05-MAR-1993
APPLICATION NUMBER: US 08/103,396
FILING DATE: 05-MAR-1993
APPLICATION NUMBER: US 08/103,396
FILING DATE: 05-MAR-1993
ATTORNEY/AGENT INFORMATION:
NAME: Weber, Ellen Lauver
REGEISTRATION NUMBER: 32,762
REFERENCE-COCKET NUMBER: 32,762
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                  NEORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 20 TELECOMMUNICATION INFORMATION: TELEPHONE: (212) 758-4800
                                                                           REGISTRATION NUMBER: 32,762
REFERENCE/DOCKET NUMBER: 018623-005030US
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 576-0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: HLA
TITLE OF INVENTION: Uses
NUMBER OF SEQUENCES: 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM: MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 22-APR-1994
ATTORNEY/AGENT INFORMATION:
NAME: CAROL M. GRUPPI
REGISTRATION NUMBER: 37,
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Sette, Alessandro
APPLICANT: Celis, Esteban
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Kubo, Ralph T.
APPLICANT: Grey, Howard M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity hes 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: USA
ZIP: 94111-3834
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CITY: San Francisco
                                                        TELEFAX:
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                                                      (415) 576-0300
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Pred. No.
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RESULT 15
US-09-162-368B-24
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                               TELEFAX: (212) 751-68
TELEX: 421792
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 08/725
FILING DATE: 04-0CT-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/599
FILING DATE: 09-FEB-1996
ATTORNEY/AGENT INFORMATION:
NAME: KATHRYN M. BROWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: MICROSOFT WORD 97
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                 MOLECULE TYPE:
DESCRIPTION:
                                                                                                                                                                                                                                                REGISTRATION NUMBER: 34,556
REFERENCE/DOCKET NUMBER: 07
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 758-4800
                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: UFILING DATE: 28-SEPT-CLASSIFICATION: 530
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: WANG, R.F.; ROSENBERG, S. A.
TITLE OF INVENTION: I DENTIFICATION OF TRP-2 AS
TITLE OF INVENTION: A HUMAN TUMOR ANTIGEN RECOGNIZED BY CYTOTOXIC T
TITLE OF INVENTION: LYMPHOCYTES
                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
LOCATION:
IDENTIFICATION METHOD:
OTHER INFORMATION:
                                                                                                                          STRANDEDNESS:
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ZIP: 10154
                                                  NAME/KEY:
                                                                                                                 TOPOLOGY:
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NEW YORK
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                                                                                                                 UNKNOWN
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                                                                                 PEPTIDE
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                                                                                                                                   UNKNOWN
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Query March 47.18; Score 24; DB 3; Length 9;
Best Local Similarity 0.08; Pred No. 1.5e405;
Matches 4; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
Qy 1 RWFPNAP; 8

Db 1 RJGF0RFV 8

Search completed: October 23, 2001, 13:29:21

Job time: 369 sec
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Run

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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
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       on:
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seq length: 9
     51
51
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1: /cgn2_6/ptodata/2/paa/PCT_NEW_COMB.pep:*

2: /cgn2_6/ptodata/2/paa/US06_NEW_COMB.pep:*

3: /cgn2_6/ptodata/2/paa/US07_NEW_COMB.pep:*

4: /cgn2_6/ptodata/2/paa/US08_NEW_COMB.pep:*

5: /cgn2_6/ptodata/2/paa/US08_NEW_COMB.pep:*

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                   Match
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Gapop 10.0 , Gapext 0.5
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51
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Copyright (c) 1993 - 2000 Compugen Ltd
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     51527020 residues
US-09-938-864-185
US-09-938-864-283
US-09-938-864-324
US-09-938-864-325
US-09-938-864-325
US-09-938-864-325
US-09-938-864-267
US-09-938-864-212
US-09-938-864-212
US-09-938-864-212
US-09-938-864-212
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US-09-884-441-436
US-09-884-441-436
US-09-884-841-447-436
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US-09-667-857-447
US-09-667-857-47
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US-09-938-864-322
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17.233 Million cell updates/sec
            Sequence 185 App Sequence 38, Appl Sequence 38, Appl Sequence 37, App Sequence 267, App Sequence 267, App Sequence 269, App Sequence 212, App Sequence 114, App Sequence 446, App Sequence 447, App Sequence 447, App Sequence 436, App Sequence 447, App Sequence 436, App Sequence 447, App Sequence 232, App Sequence 231, App Sequence 231, App Sequence 227, App Sequence 217, 
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   Sequence
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Matches
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   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
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nes 9; Conserv
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|--|--|--|------|----------|--------------|
| 43.1 9 5 US-09-571-407-224 Sequence 43.1 9 5 US-09-571-407-226 Sequence 43.1 9 5 US-09-318-864-326 Sequence 43.1 9 5 US-09-318-864-326 Sequence 41.2 8 5 US-09-399-2208-36 Sequence 41.2 8 5 US-09-399-2208-58 Sequence 41.2 8 5 US-09-399-2208-58 Sequence 41.2 8 5 US-09-399-2208-58 Sequence 39.2 9 5 US-09-687-156A-11 Sequence 39.2 9 5 US-09-867-156A-11 Sequence 37.3 4 5 US-09-786-130-35 Sequence 37.3 4 5 US-09-786-130-35 Sequence 37.3 6 5 US-09-812-283-35 Sequence 37.3 6 5 US-09-812-283-35 Sequence 37.3 6 5 US-09-812-283-35 Sequence 37.3 6 SUS-09-812-283-35 Sequence | Sequence Sequence | US-09-832 US-09-786 | 37.3 | 19 | - ω κ |
| 43.1 9 5 US-09-571-407-224 Sequence 43.1 9 5 US-09-571-407-226 Sequence 43.1 9 5 US-09-318-864-326 Sequence 43.1 9 5 US-09-318-864-326 Sequence 41.2 8 5 US-09-399-2208-58 Sequence 41.2 8 5 US-09-399-2208-58 Sequence 41.2 8 5 US-09-399-2208-58 Sequence 39.2 9 5 US-09-807-156A-11 Sequence 39.2 9 5 US-09-807-156A-11 Sequence 37.3 4 5 US-09-801-852A-9 Sequence 37.3 4 5 US-09-801-852A-9 Sequence 37.3 6 5 US-09-801-852A-9 Sequence 37.3 6 5 US-09-801-852A-9 Sequence | | US-09-812- | 37.3 | 19 |) – c |
| 43.1 9 5 US-09-571-407-224 Sequence 43.1 9 5 US-09-571-407-226 Sequence 43.1 9 5 US-09-38-864-326 Sequence 43.1 9 5 US-09-398-864-326 Sequence 41.2 8 5 US-09-399-2208-55 Sequence 41.2 8 5 US-09-399-2208-58 Sequence 41.2 8 5 US-09-399-2208-58 Sequence 39.2 7 5 US-09-382-723-99 Sequence 39.2 7 5 US-09-832-723-99 Sequence 39.3 4 5 US-09-786-130-19 Sequence 37.3 4 5 US-09-786-130-19 Sequence 37.3 5 5 US-09-786-130-19 Sequence 37.3 6 5 US-09-786-130-19 Sequence | | US-09-801- | | 19 | اقاد |
| 43.1 9 5 US-09-571-407-224 Sequence 43.1 9 5 US-09-571-407-226 Sequence 43.1 9 5 US-09-571-407-226 Sequence 43.1 9 5 US-09-398-864-326 Sequence 41.2 8 5 US-09-399-2208-36 Sequence 41.2 8 5 US-09-399-2208-58 Sequence 41.2 8 5 US-09-399-2208-58 Sequence 39.2 7 5 US-09-687-156A-11 Sequence 39.2 9 5 US-09-687-130-19 Sequence | | US-09-7 | | 19 19 | æ ~1 |
| 43.1 9 5 US-09-571-407-224 Sequence 43.1 9 5 US-09-571-407-226 Sequence 43.1 9 5 US-09-571-407-226 Sequence 43.1 9 5 US-09-38-864-326 Sequence 41.2 8 5 US-09-399-220B-36 Sequence 41.2 8 5 US-09-399-220B-58 Sequence 41.2 8 5 US-09-399-220B-58 Sequence 41.2 8 5 US-09-391-256A-11 Sequence | | US-09-832-/23- US-09-786-130- | | 19 | თυ |
| 43.1 9 5 US-09-571-407-224 Sequence 43.1 9 5 US-09-571-407-226 Sequence 43.1 9 5 US-09-38-864-326 Sequence 41.2 8 5 US-09-399-2208-58 Sequence 41.2 8 5 US-09-399-2208-58 Sequence 41.2 8 5 US-09-399-2208-58 Sequence | | 5 US-09-687-156A | | 20 | 4.1 |
| 43.1 9 5 US-09-571-407-224 Sequence 43.1 9 5 US-09-571-407-226 Sequence 43.1 9 5 US-09-391-407-226 Sequence 43.2 8 5 US-09-399-2208-36 Sequence 41.2 8 5 US-09-399-2208-55 Sequence | | 5 US-09-399-220B | | 21 | w |
| 43.1 9 5 US-09-571-407-224 Sequence 43.1 9 5 US-09-571-407-226 Sequence 43.1 9 5 US-09-398-864-326 Sequence 43.1 9 5 US-09-398-864-326 Sequence | | 5 US-09-399-220B | | 21 | 2 |
| 43.1 9 5 US-09-571-407-224 Sequence 43.1 9 5 US-09-571-407-226 Sequence 43.1 9 5 US-09-938-864-326 Sequence | | 5 US-09- | | 21 | _ |
| 43.1 9 5 US-09-571-407-224 Sequence 43.1 9 5 US-09-571-407-226 Sequence | | 5 US-09-938 | | 22 | 0 |
| 43.1 9 5 US-09-571-407-224 Sequence | | 5 US-09-571 | 43.1 | 22 | 9 |
| | | 5 U | 43.1 | 22 | 80 |

ALIGNMENTS

APPLICANT: Evans, Lawrence APPLICANT: Spies, A. Gregory APPLICANT: Spies, A. Gregory APPLICANT: Boydston, Jeremy TITLE OF INVENTION: COMPOSITIONS AND METHODS FO TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY FILE REFERENCE: 210121.465C5 CURRENT APPLICATION NUMBER: US/09/938,864 CURRENT FILING DATE: 2001-08-24 NUMBER OF SEQ ID NOS: 413 SOFTWARE: FastSEQ for Windows Version 3.0 SEQ ID NO 185 LENGTH: 9 APPLICANT: Gaiger, Alexander APPLICANT: McNeill, Patricia APPLICANT: Smithgall, Molly APPLICANT: Moulton, Gus APPLICANT: Vedvick, Thomas S. APPLICANT: Vedvick, Paul R. APPLICANT: Mossman, Sally APPLICANT: Evans, Lawrence Moulton, Gus Vedvick, Thomas S. Sleath, Paul R. Mossman, Sally McNeill, Patricia D Application US/09938864 FOR WT1

US-09-938-864-293; Sequence 293, Application US/09938864; GENERAL INFORMATION: APPLICANT: Gaiger, Alexander
APPLICANT: McNeill, Patricia D.
APPLICANT: Smithgall, Molly
APPLICANT: Moulton, Gus
APPLICANT: Vedvick, Thomas S.
APPLICANT: Vedvick, Thomas S.
APPLICANT: Sleath, Paul R.
APPLICANT: Mossman, Sally
APPLICANT: Evans, Lawrence Conservative 100.0%; 0 Score 51; DB 5; Pred. No. 2.9e+05; Length 9; Indels 0, Gaps

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FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTMARE: FastSEQ for Windows Version 3.0
SEQ ID NO 293
LENGTH: 9
TYPE: PAT
ORGANISM: Mus musculus
US-09-938-864-293
                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
""" 8; Conserve
                                                                                                                                                                                                                                                                                                                                                         ; ORGANISM: Homo sapien US-09-938-864-38
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Best Local Similarity
Thes 9; Conserv
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                                                                                                                                                                      RESULT
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SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 38
LENGTH: 9
TYPE: PRT
                                                                                                                         Sequence 324, Application US/09938864 GENERAL INFORMATION:
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                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY FILE REFERENCE: 210121.465C5
                                                           APPLICANT:
                                                                                          APPLICANT: Gaiger, Alexander APPLICANT: McNeill, Patricia D.
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CURRENT FILING DATE: 2001-08-24
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TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
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APPLICANT
                APPLICANT
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                                                                                                                                                                                                                                   1 RMFPNAPY 8
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                                                                                                                                                                                                                   RMFPNAPY 9
                           Moulton, Gus
Vedvick, Thomas S.
Sleath, Paul R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Evans, Lawrence
Spies, A. Gregory
Boydston, Jeremy
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Vedvick, Thomas S.
Sleath, Paul R.
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Smithgall, Molly
                                                                        Smithgall, Molly
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Evans, Lawrence
                Mossman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/09938864
                                                                                                                                                                                                                                                                          92.2%; Score 47; ilarity 100.0%; Pred. No. Conservative _ 0; Mismatc
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                Sally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 51; DB 5; 100.0%; Pred. No. 2.9e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
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3. 2.9e+05;
0;
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                                                                                                                                                                                                                                                                             Gaps
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                                                                                                                                                                                                                                                                               0
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                                                                                                                                     RESULT 6
US-09-938-864-267
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                                                                                                       Sequence 267, Applic GENERAL INFORMATION:
                                                                        APPLICANT: Gaiger, Alexander APPLICANT: McNeill, Patricia D.
              APPLICANT:
                              APPLICANT:
                                             APPLICANT:
                                                             APPLICANT:
APPLICANT:
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Moulton, Gus Vedvick, Thomas S. Sleath, Paul R. Smithgall, Molly

Application US/09938864

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SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 79
LENGTH: 9
TYPE: PRT
ORGANISM: Homo sapien
US-09-938-864-79
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TYPE: PRT
ORGANISM: Homo sapien and Mus musculus
US-09-938-864-324
                                                 Query Match
Best Local Similarity
The 7; Conserv
                                                                                                                                                                                                                                                        APPLICANT: Evans, Lawrence
APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION UMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
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US-09-938-864-79
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Best Local Similarity
Matches 8; Conserv
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CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
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TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
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1 FPNAPYL 7
            3 FPNAPYL 9
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                                                                                                                                                                                                                                                                                                                                                                                                                                     Moulton, Gus
Vedvick, Thomas S.
Sleath, Paul R.
                                                                                                                                                                                                                                                                                                                                                                                                                     Mossman, Sally
                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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                                                                                    80.4%; Score 41; 100.0%; Pred. No.
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Pred. No. 2.9e+05;
                                                                    Mismatches
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                                                                                    2.9e+05
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                                                                                                 Length 9;
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                                                                  Gaps
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TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 267
SEQ ID NO 267
LENGTH: 9
TYPE: PRT
ORGANISM: Mus musculus
US-09-938-864-267
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Best Local Similarity
"hes 7; Conserv?
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Best Local Similarity
Watches 7; Conserve
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                                       Sequence 325, Application US/09938864
GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: McNeill, Patricia D.
APPLICANT: Smithgall, Molly
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LENGTH: 9
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FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CHERENT FILING DATE: 2001-08-24
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APPLICANT:
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SOFTWARE: FastSEQ for Windows Version 3.0
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                 APPLICANT:
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3 RMFPNAP 9
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Vedvick, Thomas S.
Sleath, Paul R.
Sleath, Paul R.
Mossman, Sally
Evans, Lawrence
Evans, Lawrence
Spies, A. Gregory
Boydston, Jeremy
Moulton, Gus
Vedvick, Thomas S.
Sleath, Paul R.
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Spies, A. Gregory
                                                                                                                                                                                                                                          Conservative
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100.0%;
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100.0%;
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Pred. No.
                                                                                                                                                                                                                                                          Score 40;
Pred. No
                                                                                                                                                                                                                                          Mismatches
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US-09-938-864-269

Sequence 269, Applic GENERAL INFORMATION:

Application US/09938864

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APPLICANT: Gaiger, Alexander APPLICANT: McNeill, Patricia D. APPLICANT: Smithgall, Molly APPLICANT: Moulton, Gus

Vedvick, Thomas S.

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RESULT
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Best Local Similarity !
"hahes 6; Conservat
                                                                                                                                                                                               ; ORGANISM: Homo sapien US-09-938-864-98
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; ORGANISM: Homo sapien and Mus musculus
US-09-938-864-325
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CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 325
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
6; Conserve
                                                                                                                                                                                                                                                                SEQ ID NO 98
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CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Evans, Lawrence
APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.46505
                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: COMPOSITIONS AND METHODS TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY FILE REFERENCE: 210121.465C5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Gaiger, Alexander APPLICANT: McNeill, Patrici APPLICANT: Smithgall, Molly
                                                                                                                                                                                                                              LENGTH: 9
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
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                                               4 RMFPNA
                                                                                1 RMFPNA 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              Moulton, Gus
Vedvick, Thomas S.
Sleath, Paul R.
                                                                                                                                                                                                                                                                                                                                                                                           Evans, Lawrence
Spies, A. Gregory
Boydston, Jeremy
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                                               9
                                                                                                               Conservative
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                                                                                                             64.7%; score 33; DB 5;
100.0%; Pred. No. 2.9e+
tive 0; Mismatches
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. 2.9e+05;
                                                                                                               2.9e+05;
hes 0;
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                                                                                                                                               Length 9;
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TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 269
LENGTH: 9
TYPE: PRT
ORGANISM: Mus musculus
US-09-938-864-269
                                                                    US-09-938-864-144; Sequence 144, Application US/09938864; GENERAL INFORMATION:
                                                                                                                                                                                                                     Query Match
Best Local Similarity
"~+~hes 5; Conserv?
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                                                                                                                                                                                                                                                                                                                  ; LENGTH: 9
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-938-864-212
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                                                                                                                     RESULT 12
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SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 212, Applic GENERAL INFORMATION:
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Best Local Similarity
Matches 6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
APPLICANT: Gaiger, Alexander APPLICANT: McNeill, Patricia D. APPLICANT: Smithgall, Molly APPLICANT: Moulton, Gus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Gaiger, Alexander APPLICANT: McNeill, Patricia D. APPLICANT: Smithgall, Molly APPLICANT: Moulton, Gus APPLICANT: Vedvick, Thomas S.
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APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
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Vedvick, Thomas S.
Sleath, Paul R.
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Mossman, Sally
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Spies, A. Gregory
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Conservative
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Pred. No.
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APPLICANT: Evans, Lawrence
APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF ESO ID NOS: 413
SOFTWARE: PastSEQ for Windows Version 3.0
SEQ ID NO 282
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; SEQ ID NO 144
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-938-864-144
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Best Local Similarity
"-+-hes 5; Conserv:
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Best Local Similarity
"-+-hes 5; Conserv?
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                                                                                    RESULT 14
US-09-884-441-436
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APPLICANT: McNeill, Patricia D.
APPLICANT: Smithgall, Molly
APPLICANT: Moulton, Gus
APPLICANT: Vedvick, Thomas S.
APPLICANT: Sleath, Paul R.
                                                Sequence 436, Application US/09884441 GENERAL INFORMATION:
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APPLICANT: Evans, Lawrence
APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
APPLICANT: Algate, Paul A.
APPLICANT: Carter, Darrick
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
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ORGANISM: Mus
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Vedvick, Thomas S.
Sleath, Paul R.
Mossman, Sally
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Sleath, Paul R.
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100.0%; Pr/
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100.0%; Prr
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Pred. No.
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Pred. No.
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2.9e+05;
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2.9e+05;
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RESULT 15

US-09-884-441-447

Sequence 447, Application US/09884441

GENERAL INFORMATION:

APPLICANT: Algate, Paul A.

APPLICANT: Carter, Darrick

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND

TITLE OF INVENTION: DIAGNOSIS OF OVARIAN CANCER

FILE REFERENCE: 210121.462C7

CURRENT APPLICATION UNMBER: US/09/884,441

CURRENT FILING DATE: 2001-06-18

NUMBER OF SEQ ID NOS: 489

SOFTWARE: FFastSEQ for Windows Version 3.0

SEQ ID NO 447

LENCTH: 9

TYPE: PRT

ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/884,441
CURRENT FILING DATE: 2001-06-18
NUMBER OF SEQ ID NOS: 489
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 436
LENGTH: 9
TYPE: PRT
ORGANISM: Homo sapiens
US-09-884-441-436
Search completed: October 23, 2001, 13:30:23 Job time: 145 sec
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Best Local Similarity 50.
Matches 4; Conservative
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Best Local Similarity 50.0%;
Matches 4; Conservative
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2 LLPLSPYL 9
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Pred. No. 2.9e+05; 
2; Mismatches 2; Indels
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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Match Length
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.: /cgn2_6/ptodata/2/paa/US082_COMB.pep: *
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US-09-276-484-185
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| US-09-164-223-79 US-09-164-223-267 | -09-791-477- | -09-785-019- | -09-685-830- | -09-684-361- | S-09-679-339- | S-09-523-419-324 | -09-276-484A | -09-276-484- | -09-791-477- | -09-785-019- | 9-685-830- | -09-684-361- | -09-679-339- | -09-523-419- | 9-276-484A | -09-276-484- | S-09-164-223- | S-09-164-223- | -09-164-223- | -09-872-832- | -09-791-477- | -09-791-477- | -09-785-019- | -09-785-019- | -09-685-830- | -09-685-830- | -09-684-361- | -09-684-361- | -09-679-339- | -09-679-339- | 15-09-625-963- | -09-523-419 | 9-523-419-18 |
| Sequence 79, Appl Sequence 267, App | 324, | 324, | 324 | 324 | 324 | 324 | 324 | 324 | 38, | 38, | 38, | 38, | 38, | 38, | 38, | 38, | 38, | 38, | 38, | 46, | | 185 | 293 | 185 | 293 | 185 | 293 | 185 | 293 | 185 | 1, Appl | Sequence 293, App | 185, Ap |

ALIGNMENTS

RESULT 1 US-09-164-223-185 Sequence 185, Application US/09164223 GENERAL INFORMATION:

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APPLICANT: Galger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
CURRENT APPLICATION NUMBER: US/09/164,223
CURRENT EPILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 185
LENGTH: 9
TYPE: PRT
ORGANISM: Homo Sapiens
US-09-164-223-185

Query Match
Best Local Similarity 100.0%; Score 51; DB 15; Length 9;
Best Local Similarity 100.0%; Pred. No. 2.6e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Watches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

RESULT 2
US-09-164-223-293
Sequence 293, Application US/09164223
; APPLICANT: Galger, Alexander
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CURRENT APPLICATION NUMBER: US/09/164,223A
CURRENT ETLING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 185
LENGTH: 9
TYPE: PRT
ORGANISM: Homo saplens
US-09-164-223-185
Query Match
Best Local Similarity
9; Seaserve
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                                                                                                               ; ORGANISM: Mus musculus 
US-09-164-223-293
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                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/164,223A
CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 293
LENGTH: 9
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CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 293
LENGTH: 93
TLENGTH: 93
TENGTH: 93
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Best Local Similarity
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Best Local Similarity 100
Matches 9; Conservative
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                                                                                                                                                                                                                                                                                     APPLICANT: Gaiger, Alexander APPLICANT: Cheever, Martin A. APPLICANT: Cheever, Martin A. TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY FILE REFERENCE: 210121.465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
                                                                                                                                                     TYPE: PRT
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100.0%; Pred. No. 2.
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US-09-2/V
; Sequence 185, Applica-
; Sequence 185, Applica-
; General Information:
; Applicant: Gaiger, Alexander
Applicant: Cheever, Martin A.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
; TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
; FILE REFERENCE: 210121.465C1
. CURRENT APPLICATION NUMBER: US/09/276,484
                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PATENTIN VER.
SEQ ID NO 293
LENGTH: 9
TYPE: PRT
ORGANISM: Mus musculus
US-09-164-223-293
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GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121,465
CURRENT APPLICATION NUMBER: US/09/164,223B
CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 185
LENGTH: 9
TYPE: PRT
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GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
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Best Local Similarity
Matches 9; Conser
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CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
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Pred. No. 2.6e+06;
); Mismatches 0;
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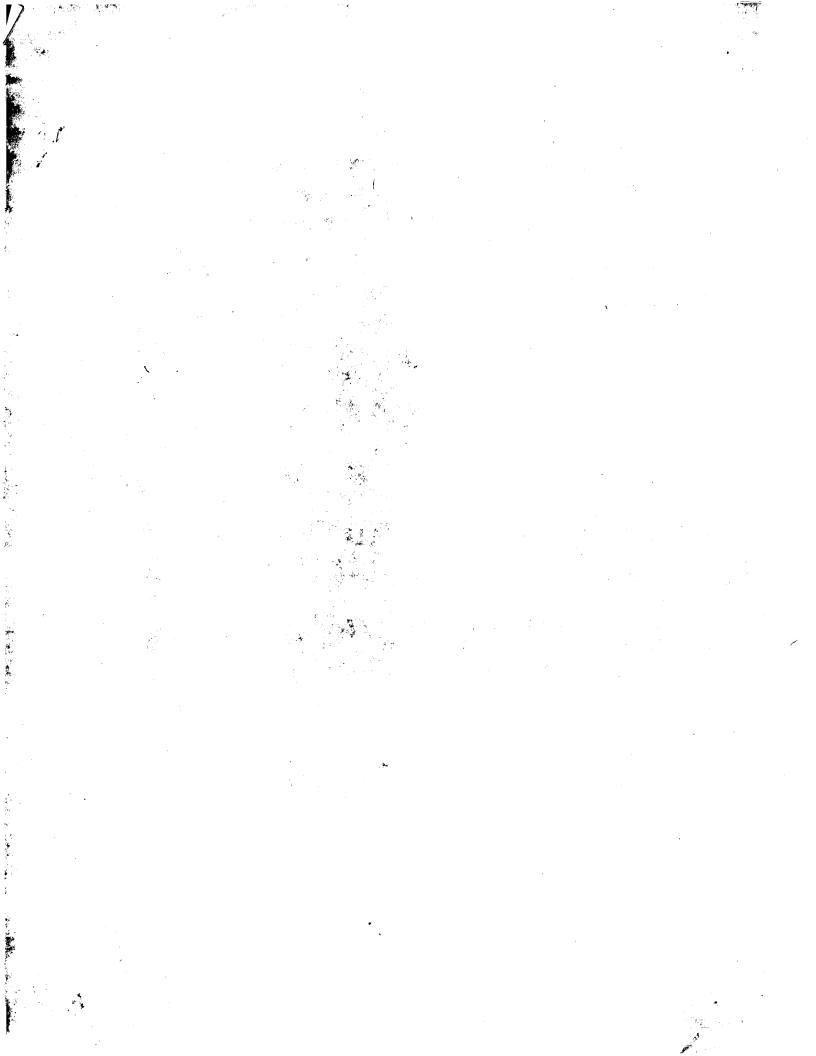
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Query Match
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US-09-276-484-293
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                                                                            ; ORGANISM: Homo sapien US-09-276-484A-185
                                                                                                                               SOFTWARE: FO
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SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 293
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SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 185
LENGTH: 9
                                                                                                                                                      PRIOR APPLICATION NUMBER:
PRIOR FILING DATE: 1999-C
NUMBER OF SEQ ID NOS: 326
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APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.45C1
CURRENT APPLICATION NUMBER: US/09/276,484
CURRENT FILING DATE: 1999-03-25
                                                                                                      LENGTH: 9
TYPE: PRT
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                      100.0%; Score 51; DB 16; 100.0%; Pred. No. 2.6e+06;
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Pred. No. 2.6e+06;
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Pred. No. 2.6e+06;
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RESULT 12
US-09-523-419-293
; Sequence 293, Application US/09523419
; GENERAL INFORMATION:
; APPLICANT: Hendrickson, Ronald C.
; APPLICANT: Probst, Peter
; APPLICANT: Reed, Steven G.
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; APPLICANT: Gaiger, Alexander; APPLICANT: Cheever, Martin A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TYPE: PRT; ORGANISM: Homo sapien US-09-523-419-185
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US-09-523-419-185
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; LENGTH: 9
; TYPE: PRT
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GENERAL INFORMATION:
APPLICANT: Hendrickson, Ronald C.
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Best Local Similarity
Matches '9; Conserv
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LENGTH: 9
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APPLICANT: Reed, Steven G.
TITLE OF INVENTION: METHODS FOR THE DIAGNOSIS AND THERAPY
TITLE OF INVENTION: OF CHLAMYDIA INFECTION
FILE REFERENCE: 210121 492
CURRENT APPLICATION NUMBER: US/09/523,419
CURRENT FILING DATE: 2000-03-10
NUMBER OF SEQ ID NOS: 326
COUNTRING DESCRIPTION OF SECULATION OF SECUL
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US-09-679-339-185
; Sequence 185, Application US/09679339
; GENERAL INFORMATION:
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Best Local Similarity
"atches 9; Conserv
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-625-963-1
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SOFTWARE: FA
SEQ ID NO 185
LENGTH: 9
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CURRENT APPLICATION NUMBER: US/09/523,419
CURRENT FILING DATE: 2000-03-10
NUMBER OF SEQ ID NOS: 326
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 293
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1, Application US/09625963
GENERAL INFORMATION:
APPLICANT: Strauss, Hans Josef
APPLICANT: Gao, Liquan
TITLE OF INVENTION: Immunotherapeutic Methods Using Epitopes of WT-1 and
TITLE OF INVENTION: GATA-1
FILE REFERENCE: ICI 101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE:
SEQ ID NO 1
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Best Local Similarity
Matches 9; Conser
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                                                   TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.533
CURRENT APPLICATION NUMBER: US/09/679,339
CURRENT FILING DATE: 2000-10-04
NUMBER OF SEQ ID NOS: 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/625,963
CURRENT FILING DATE: 2000-07-26
PRIOR APPLICATION NUMBER: PCT/GB99/03572
                                                                                                                                                                                                          APPLICANT:
APPLICANT:
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PRIOR APPLICATION NUMBER:
PRIOR FILING DATE: 1998-
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                                     FastSEQ for Windows Version 3.0
                                                                                                                                                                                    Xu, Jiangchun
Cheever, Martin
                                                                                                                                                                    Reed, Steven G.
                                                                                                                                                                                                                          Skeiky, Yasir
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100.0%; Pred. No. 2.6e+06;
tive 0; Mismatches 0;
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; SOFTWARE: FastSEQ for Wi
SEQ ID NO 293
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Mus musculus
US-09-679-339-293
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GENERAL INFORMATION:
APPLICANT: Skeiky, Yasir
APPLICANT: Xu, Jiangchun
APPLICANT: Cheever, Martin
APPLICANT: Reed, Steven G.
                                                                                                              Query Match
Best Local Similarity
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Search completed: October 23, Job time: 283 sec
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US-09-679-339-293
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Best Local Similarity 100
Matches 9; Conservative
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CURRENT FILING DATE: 2000-10-04
NUMBER OF SEQ ID NOS: 357
                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.533
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Minimum DB
Maximum DB
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seq length: 9
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Match Length
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Listing first 45 summaries
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| Human p53 cellular | AAY21102 | 19 | 6 | 43.1 | 22 |
| ate | 9880 | 21 | 9 | ٠ | 23 |
| = | 0082 | 20 | 9 | • | 23 |
| Human MHC Class II | 55 | 20 | 9 | 45.1 | 23 |
| ogenio | 652 | 20 | 9 | 5. | 23 |
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| B | 2 | 21 | 9 | 47.1 | 24 |
| | AAY45662 | 20 | 9 | 47.1 | 24 |
| TRP-2 derived pote | AAW37015 | 18 | 9 | 47.1 | 24 |
| melanoma a | AAR84772 | 16 | 9 | 7. | 24 |
| n fra | AAR73698 | 15 | 9 | • | 24 |
| .1 a1g | 168 | 15 | 9 | • | 24 |
| B virus | 809 | 15 | 9 | 47.1 | 24 |
| nyl | 577 | 19 | 7 | • | 24 |
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| C | AAY46625 | 20 | 9 | 51.0 | 26 |
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| munogenic | Ñ | 20 | 8 | • | 27 |
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| derived | 876 | 21 | 9 | • | 28 |
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| ell epitope/MH | 040 | 20 | 9 | • | 28 |
| tide from N | 465 | 19 | 9 | • | 28 |
| P-2 derive | 70 | 18 | 9 | • | 28 |
| 1 derived | 9869 | . 21 | 9 | • | 29 |
| WT1 derived immuno | AAY98754 | 21 | 9 | 64.7 | 33 |

ALIGNMENTS

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Claim 1; Page 74; 93pp; English.
                                            Novel peptides comprising WT-1 and GATA-1 epitopes, their fragments variants, useful as vaccines for cancer immunotherapy \cdot
                                                                                                                                                                                                                                                    02-NOV-1998;
                                                                                                              WPI; 2000-376123/32.
                                                                                                                                                           Stauss HJ,
                                                                                                                                                                                                     (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD
                                                                                                                                                                                                                                                                                              02-NOV-1999;
                                                                                                                                                                                                                                                                                                                                        11-MAY-2000.
                                                                                                                                                                                                                                                                                                                                                                                     WO200026249-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                           Gao L;
                                                                                                                                                                                                                                                    98GB-0023897.
                                                                                                                                                                                                                                                                                                 99WO-GB03572
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or P

WT126-3; peptide; epitope; Wilm's tumour gene; leukaemia; breast cancer; melanoma; ovarian cancer; immunotherapy. Human cytotoxic T lymphocyte-recognised WT1 peptide WT126-34. 28-SUL-2000

(first entry)

AAY94202 standard; peptide;

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Query Match
Best Local
                                                                                                                                   The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WTI, (or variants of the immunogenic portion retaining the ability to react with WTI-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence is peptide epitope WT126-34, produced by WT1 expressing cells and found at residues 126-134 of the WT1 protein, which is recognised by cytotoxic T lymphocytes. WT1 is aberrantly expressed in leukaemias, breast cancer, melanoma and ovarian cancer. The peptide can be used as a vaccine to stimulate the elimination, by cytotoxic T lymphocytes, of cancer cells aberrantly expressing WT1. In addition, the nucleic acid encoding the peptide may also be used in the same manner. Alternatively, the peptide may be used in vitro to produce activated cytotoxic T lymphocytes.
                                polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an imune response in patients. The polypeptides, mimetrics or polypucleotides can be included with a carrier/excipient in pharmaceutical compositions or with a non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a T cell response) in vaccines. Pharmaceutical
                                                                                                                                                                                                                                             Claim
                                                                                                                                                                                                                                                                         Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant diseases associated with WT1 expression e.g. leukemia or cancer
                                                                                                                                                                                                                                                                                                                                                                                Gaiger A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30-SEP-1998;
25-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WT1 derived
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                   compositions and
                                                                                                                                                                                                                                                                                                                                                                                                               (CORI-) CORIXA (GAIG/) GAIGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            metastatic disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY98670 standard; Peptide; 9 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        omo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        immunotherapy;
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   or
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9; Conser
                                                                                                                                                                                                                                         Page 171; 193pp; English
                                                                                                                                                                                                                                                                                                                                                                                Cheever M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9 AA;
   induce
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99US-0276484.
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 vaccines can be administered to human patients e an immune response specific for WTl or a cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          immunogenic; malignant disease; cancer; leukaemia;
mouse; human; Wilm's tumour; immune response;
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Pred. No.
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3.4e+05;
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sed in
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RESULT
AAY98778
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Best Local Similarity

√ 31-JUL-2000

                         manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, mimetics or polynucleotides can be included with a carrier/excipient in pharmaceutical compositions or with a non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a T cell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to enhance or induce an immune response specific for WT1 or a cell
                                                                                                                                       The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WT1, correct variants of the immunogenic portion retaining the ability to react with WT1-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WT1 polypeptide. The polypeptides are useful therapeutically and to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        expressing WT1, useful to inhibit the development of malignant diseases associated with WT1 expression, e.g. leukemia (especially acute/chronic myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma).

AAA98501 to AAY98811 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the
               expressing WT1, useful to inhibit the development of malignant diseases
                                                                                                                                                                                                                                                        Claim 4; Page 186;
                                                                                                                                                                                                                                                                                                     Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-SEP-1998;
25-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WT1 derived
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                                                                                                                                                                                                                                                                                      diseases associated with WT1 expression e.g. leukemia
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                                                                                                                                                                                                                                                                                                   polypeptide, useful
                                                                                                                                                                                                                                                                                                                                                                                                                   (GAIG/)
                                                                                                                                                                                                                                                                                                                                                                                                                                    (CORI-) CORIXA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           immunotherapy;
static disease;
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99US-0276484
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                                                                                                                                                                                                                                                        193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           immunogenic; malignant disease; cancer; leukaemia;
mouse; human; Wilm's tumour; immune response;
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Pred. No.
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with WT1 expression, e.g. leukemia

(especially acute/chronic

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Query Match
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                      The present invention describes a cancer antigen containing the active component of Wilms' tumour suppressor gene WT1 product, or partial peptides, for cancer vaccines in treating leukaemia and solid tumours. The cancer antigens are useful for cancer vaccines in treating leukaemia, bone-marrow abnormal formation syndrome, malignant lymphoma, multiple myeloma, stomach cancer, cancer of the large intestine, lung cancer, breast cancer, blastoma, liver cancer, skin cancer, bladder cancer, prostate cancer, uterus cancer, cervical cancer, or ovary cancer. The present sequence represents a peptide from the human wilms' tumour suppressor gene WT1 product.
                                                                                                                                                                                                                                                                                                       Cancer antigens based on Wilm's tumor suppressor gene WT1 product or peptide derivatives, for cancer vaccines in treating leukemia and solid tumors e.g. stomach cancer, skin cancer, lung cancer and breast cancer
                                                                                               Sequence
                                                                                                                                                                                                                                                                              Claim 5; Page 18; 48pp;
                                                                                                                                                                                                                                                                                                                                                                                            Sugiyama H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                   31-JUL-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Wilm's tumour suppressor gene; WT1; cancer; antigen; vaccine; MHC; major histocompatibility complex; leukaemia; tumour; antitumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma). AAV98811 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30-JUL-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human Wilms' tumour suppressor
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                                                                                                                                                                                                                                                                                                                                                                                                                      (SUGI/) SUGIYAMA H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-MAY-2000
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RMFPNAPYL
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                            Mismatches
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                                        3.4e+05;
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                                                                                                                                                                The present invention describes polypeptides (I) comprising an CC immunogenic portion of a native Wilm's Tumour gene product polypeptide, CC WT1, (or variants of the immunogenic portion retaining the ability to CC react with WT1-specific antisera and/or T-cell lines or clones) and CC comprising 16 consecutive amino acids (aa) or less of a native WT1 CC polypeptide. The polypeptides are useful therapeutically and to CC manufacture medicaments for enhancing/inducing an immune response in CC patients. The polypeptides, mimetics or polynucleotides can be included CC with a carrier/excipient in pharmaceutical compositions or with a carrier/excipient in pharmaceutical compositions or with a consepcific immune response enhancer (e.g. an adjuvant or enhancer CC preferentially enhancing a T cell response) in vaccines. Pharmaceutical CC compositions and vaccines can be administered to human patients to CC compositions and vaccines can be administered to human patients to CC compositions and vaccines can be administered for WT1 or a cell CC expressing WT1, useful to inhibit the development of malignant diseases associated with WT1 expression, e.g. leukemia (especially acute/chronic CC myeloid leukemia or acute lymphocytic leukemia) or cancer (especially cCC axy98501 to Axy98811 represent polypeptide sequences, and AAA13848 to CAAA13862 represent PCR primers, used in the exemplification of the
                                     Matches
                                                 Ouery Match
Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 4; Page 149; 193pp;
                                                                                                                       Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (CORI-) CORIXA CORP. (GAIG/) GAIGER A.
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25-MAR-1999;
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8; Conser
                                                                                                                                                           invention.
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                                     Conservative
                                                                                                                       AA;
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99US-0276484.
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                              92.2%; 5cc
100.0%; Pr
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mouse; human; Wilm's tumour; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       English
                                                   Score 47;
Pred. No.
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                                     Mismatches
                                DB 21;
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                                                                                                                                                                                      comprising 16 consecutive amino acids (aa) or less of a native wTl

polypeptide. The polypeptides are useful therapeutically and to

manufacture medicaments for enhancing/inducing an immune response in

patients. The polypeptides, mimetics or polynucleotides can be included

with a carrier/excipient in pharmaceutical compositions or with a

con-specific immune response enhancer (e.g. an adjuvant or enhancer

crospectific immune response enhancer (e.g. an adjuvant or enhancer

crospectific immune response enhancer (e.g. an adjuvant or enhancer

crompositions and vaccines can be administered to human patients to

compositions and vaccines can be administered to human patients to

cenhance or induce an immune response specific for WTl or a cell

cexpressing WTl, useful to inhibit the development of malignant diseases

associated with WTl expression, e.g. leukemia (especially acute/chronic

myeloid leukemia or acute lymphocytic leukemia) or cancer (especially

breast, lung, thyroid or gastrointestinal cancer, or a melanoma).

AAA13862 represent pCR primers, used in the exemplification of the
                                                                                                                                Query Match
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metastatic disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 193; 193pp; English.
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25-MAR-1999;
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                                                                                                  Local Similarity
nes 8; Conserv
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| mfpnapyl 8
                                                                  2 MFPNAPYL 9
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                                                                                                    Conservative
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99US-0276484.
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mouse; human; Wilm's tumour; immune response;
                                                                                                                90.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO: 324
                                                                                                  0;
                                                                                                                Score 46;
Pred. No.
                                                                                                                DB 21; I
                                                                                                                                 Length
                                                                                                  Indels
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RESULT
AAY98752
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RESULT
AAY98564
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                                                              Query Match
Best Local Similarity
Matches 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant diseases associated with WTl expression e.g. leukemia or cancer \frac{1}{2}
                                                                                                                                                  Sequence
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25-MAR-1999;
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1 fpnapyl 7
               3 FPNAPYL 9
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                                                                  Conservative
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99US-0276484.
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mouse; human; Wilm's tumour; immune response;
                                                                                 80.4%; Score 41; DB 21; 100.0%; Pred. No. 3.4e+05;
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AAY98808
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                    AAY98808 standard; Peptide; 9
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AAY98501 to AAY98811 represent polypeptide sequences, and AAA13848 to

AAA13862 represent PCR primers, used in the exemplification of the
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                                                                                                                                                                                                                                                                                                                                         present invention.
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25-MAR-1999;
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99US-0276484.
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Matches 7
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AAY98501 to AAY98811 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the
AAY98810;
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                                                AAY98810 standard; Peptide;
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metastatic disease;
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99US-0276484.
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mouse; human; Wilm's tumour; immune response;
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AAA13862 represent PCR primers, used in the exemplification of the
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25-MAR-1999;
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metastatic disease;
                                                                     AAY98583 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-SEP-1999;
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                                                                                                                                                                                                                          4 PNAPYL 9
                                                                                                                                                                                                1 pnapyl 6
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                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
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99US-0276484.
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                                                                     Peptide; 9 AA
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mouse; human; Wilm's tumour; immune response;
                                                                                                                                                                                                                                                                                                                       68.6%; Score 35; 100.0%; Pred. No.
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3.4e+05;
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                    31-JUL-2000
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밁 20

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(first entry)

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Query Match
Best Local Similarity
"hehes 6; Conservi
                                                                                                                                                                                                                                                                                RESULT 12
                                                                                                                                                                                                                                                                                                                       with a carrier/excipient in pharmaceutical compositions or with a non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a Toell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to enhance or induce an immune response specific for WTl or a cell expressing WTl useful to inhibit the development of malignant diseases associated with WTl expression, e.g. leukemia (especially acute/chronic myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma). AAY38501 to AAY38811 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WT1, (or variants of the immunogenic portion retaining the ability to react with WT1-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WT1 polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant diseases associated with WTl expression e.g. leukemia or cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-SEP-1998;
25-MAR-1999;
AAY98754;
                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                  present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, mimetics or polynucleotides can be included
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 4; Page 158; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2000-293107/25.
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                                  AAY98754 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (CORI-) CORIXA CORP. (GAIG/) GAIGER A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-JUL-2000
                                                                                                                                       1 RMFPNA 6
                                                                                                                       4 rmfpna
                                                                                                                                                                                                                                                                                9
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                                                                                                                        9
                                                                                                                                                                                           Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
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99US-0276484.
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                                  Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             immunogenic; malignant disease; cancer; leukaemia;
mouse; human; Wilm's tumour; immune response;
                                                                                                                                                                                                           64.7%;
100.0%;
                                                                                                                                                                                           0;
                                                                                                                                                                                                           Score 33;
Pred. No.
                                                                                                                                                                                           Mismatches
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                                                                                                                                                                                                           DB 21;
3.4e+05;
                                                                                                                                                                                                                        Length 9;
                                                                                                                                                                                           Indels
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WT1

derived immunogenic peptide

SEQ ID NO:269

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RESULT 13
AAY98697
ID AAY986
XX
AC AAY986
XX
DT 31-JUL
XX
DE WT1 de
XX
                                                                                                                                                                                                                                                                                    Matches
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                with a carrier/excipient in pharmaceutical compositions or with a non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a T cell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to enhance or induce an immune response specific for WTI or a cell expressing WTI. useful to inhibit the development of malignant diseases associated with WTI expression, e.g. leukemia (especially acute/chronic myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma).

ANY98501 to ANY98611 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WT1, (or variants of the immunogenic portion retaining the ability to react with WT1-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WT1 polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, mimetics or polynucleotides can be included with a carrier/excipient in pharmaceutical compositions or with a carrier/excipient in pharmaceutical compositions or with a
                  WT1 derived immunogenic peptide SEQ ID NO:212.
                                                                                         AAY98697;
                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel polypeptides comprising an immunogenic portion of a native WT1 polypeptide, useful for inhibiting the development of malignant diseases associated with WT1 expression e.g. leukemia or cancer -
                                                      31-JUL-2000
                                                                                                                          AAY98697 standard; Peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim. 4; Page 183; 193pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaiger A, Cheever M;
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25-MAR-1999;
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4 rmfpna 9
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                                                    (first entry)
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99US-0276484.
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                                                                                                                                                                                                                                                                                                 64.7%;
                                                                                                                                                                                                                                                                               Score 33; DB ;; Pred. No. 3.4 0; Mismatches
                                                                                                                                                                                                                                                                                 DB 21; 1
. 3.4e+05;
ches 0;
                                                                                                                                                                                                                                                                                                                 Length 9;
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   RESULT
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Tyrosinase related protein 2 gene; TRP-1; gp75; tumour antigen; tumour infiltrating lymphocyte; TIL; TIL586; cancer peptide; TRP-2;
                                                 TRP-2 derived potential cancer antigen 18, based on positions 197-205
                                                                                       20-MAR-1998
                                                                                                                          AAW37017;
                                                                                                                                                        AAW37017 standard; Peptide;
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В Ş

1 RMFPN 5 ||||| 5 rmfpn 9

0

14

9

(first entry)

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Query Match
Best Local S
Matches 5
                                                                                                                                                                                                                                                                                                                             non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a Tell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to enhance or induce an immune response specific for WT1 or a cell expressing WT1, useful to inhibit the development of malignant diseases associated with WT1 expression, e.g. leukemia (especially acute/chronic myeloid leukemia or acute lymphocytic leukemia) or cancer (especially. breast, lung, thyroid or gastrointestinal cancer, or a melanoma).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WT1, (or variants of the immunogenic portion retaining the ability to react with WT1-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WT1 polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in
                                                                                                                                                                                                                                  breast, lung, thyroid or gastrointesting tunes, and AAA13848 to AAY98501 to AAY98811 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant diseases associated with WTl expression e.g. leukemia or cancer
                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         patients. The polypeptides, mimetics or polynucleotides can be included with a carrier/excipient in pharmaceutical compositions or with a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 4; Page 174; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2000-293107/25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-SEP-1998;
25-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (CORI-) CORIXA CORP. (GAIG/) GAIGER A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-SEP-1999;
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   Similarity 5; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cheever M;
                                                                                                                                                                       9
          Conservative
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99US-0276484.
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56.9%; Score 29;
100.0%; Pred. No.
Live 0; Mismatc
          Mismatches
                                  DB 21;
3.4e+05;
      0;
                                                                  Length 9;
      Indels
   0;
   Gaps
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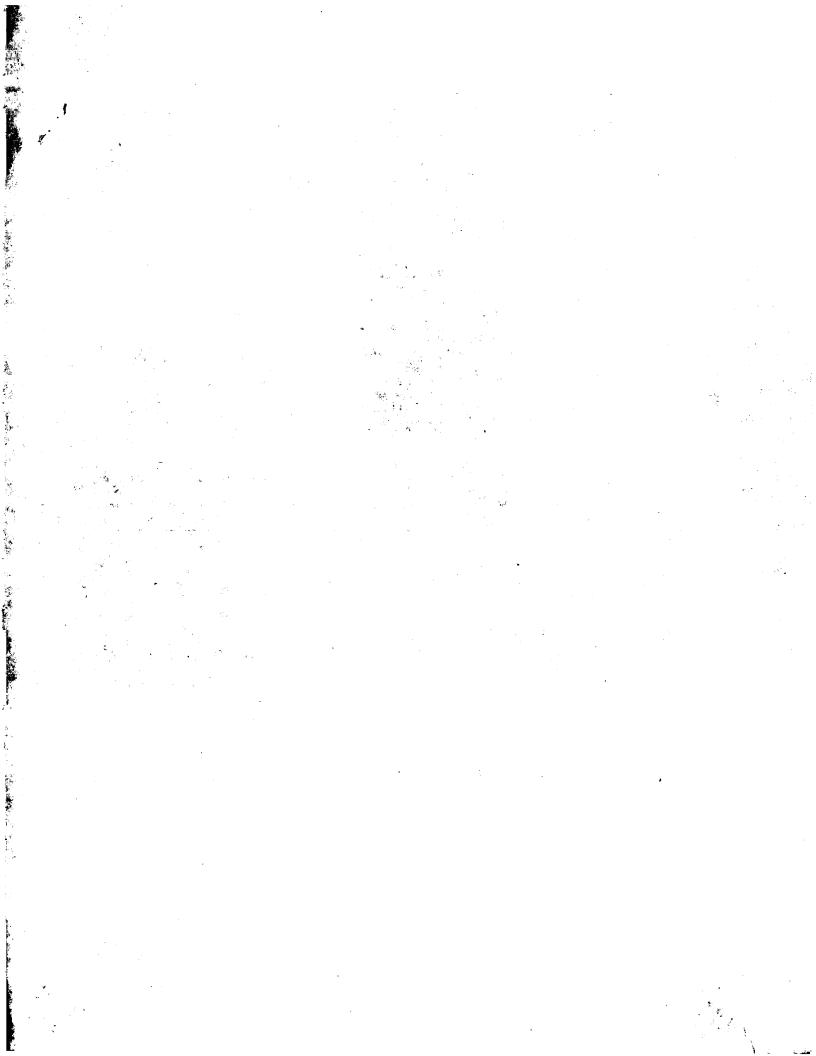
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AAW54658
ID AAW5
XX AAW5
AC AAW5
XX
DT 25-5
XX
DE Pept
XX
KW Manr
KW vacc
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Matches 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Peptides AAW30829-38 and AAW37011-21 are modified versions of a peptide derived from positions 197-205 of the tyrosinase related protein 2 (TRP-2). This region contains the peptide epitope of TRP-2 that is able to stimulate cytokine release by CTL cells. Apart from AAW30829-30 (these contain extra residues at the N-terminal (AAW30829) and the C-terminal (AAW30830)), the peptides were modified to contain substitutions at the anchor residues. Of all these peptides, only AAW30829-38 were able to stimulate cytokine release. Other antigenic peptides have also been identified from TRP-1. The nucleic acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     encoding the cancer peptides or TRP-2 can be used to detect a cancer or pre-cancer in a mammal, especially by detecting the presence of the alterative ORF 3 of the TRP-1 gene or the sequence encoding the novel tumour antigen TRP-2. Vectors and recombinant viruses containing antigen peptide encoding nucleic acids, antibodies raised against the peptides, or the peptides themselves can be used to prevent or treat a cancer in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           peptide encoding nucleic acids, antibod or the peptides themselves can be used mammal, especially a melanoma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cancer antigen peptide(s) derived from the tyrosinase-related protein 1 or 2 - useful for detecting, preventing or treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-OCT-1996;
09-FEB-1996;
vaccine; treatment
                                                                       Peptide from Measles F protein 438-446
                                                                                                                                                                                                                     AAW54658 standard; peptide; 9 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 14; Page 56; 111pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1997-415349/38.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-FEB-1997;
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                    Mannose, antigen; antigen-presenting cell; mannosylated peptide; T cell;
                                                                                                                       25-SEP-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity nes 4; Conserv
                                                                                                                                                                                                                                                                      15
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Matches 5; Conserv
                                                                                                                                                                                        The peptides AAW54559-W54809 are examples of peptides to which at least 1 (preferably 2) mannose can be attached to increase their uptake as antigens by antigen-presenting cells. Uptake of agonist mannosylated peptides will increase the T cell response, whereas uptake of antagonist peptides blocks the T cell response. Blocking binding of immunogenic autoantigens can be used in treatment of type I diabetes, rheumatoid arthritis, graft rejection etc., also to induce T-cell non-responsiveness. Vaccines containing mannosylated antigen are used to
                                                                                                                                                                                                                                                                                                                                                     Increasing uptake and presentation of antigen(s) - by adding mannose residue(s) to antigen for increasing T cell response, useful in, e.g. vaccines against viral infection(s)
                                                                                                                                   Sequence
                                                                                                                                                                         responsiveness. Vaccines containing mannosylated antigen are used to prevent or treat infections by, e.g. bacteria, viruses, fungi, helmin
                                                                                                                                                                                                                                                                                                                          Disclosure; Page 29; 47pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Synthetic.
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Copyright (c) 1993 - 2000 Compugen Ltd
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ALIGNMENTS

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R;De Paepe, R.; Forchioni, A.; Chetrit, P.; Vedel, F. Proc. Natl. Acad. Sci. U.S.A. 90, 5934-5938, 1993 A;Title: Specific mitochondrial proteins in pollen: presence A;Reference number: A48186; MUID:93317598 A;Accession: D48186
                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                 ATPase R1 subunit - wood tobacco (fragment)
C;Species: Nicotiana sylvestris (wood tobacco)
C;Date: 16-Feb-1994 #sequence_revision 18-Nov-1994 #text_change 23-Feb-1997
C;Accession: D48186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
D48186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: protein A; Residues: 1-5;6-9 <FRE> C; Keywords: oxidoreductase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Accession: S70345

R;Frebort, I.; Pec, P.; Lubova, L.; Toyama, H.; Matsushita, K.; Hirota, S.; Kitagawa, Biochim. Biophys. Acta 1295, 59-72, 1996

A;Title: Two amine oxidases from Aspergillus niger AKU 3302 contain topa quinone as t A;Reference number: S70344; MUID:96283794

A;Accession: S70345
                                                                                                                                                                             A;MoLecule type: protein
A;Residues: 1-9 <DE1>
A;Residues: 1-0 <DE1>
A;Experimental source: pollen
A;Note: sequence extracted from NCBI backbone (NCBIP:134871)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           amine oxidase (copper-containing) (EC 1.4.3.6) II - Aspergillus niger (fragments)
C;Species: Aspergillus niger
C;Date: 19-Mar-1998 #sequence_revision 17-Apr-1998 #text_change 17-Apr-1998
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A;Reference number: PH1403; MUID:93018837
A;Accession: PH1408
A;Molecule type: DNA
A;Residues: 1-7 <SHI>
A;Accession: PH1405
A;Accession: PH1405
A;Molecule type: DNA
A;Experimental source: clone micro m+ 46-12-2
A;Molecule type: DNA
A;Residues: 1-7 <SHI2>
A;Experimental source: clone micro m+ 46-6
C;Superfamily: immunoglobulin V region; immunoglobulin hom
C;Keywords: heterotetramer; immunoglobulin
xenopsin-related peptide 2 - rat
N;Contains: xenopsin-related peptide 1
C;Species: Rattus norvegicus (Norway rat)
C;Date: 10-Nov-1992 #sequence_revision 10-Nc
C;Accession: A60320
R;Carraway,R_LE; Mitra, S.P.; Muraki, K.
Regul. Pept. 29, 229-239, 1990
A;Title: Isolatian and structures of xenopsi
                                                                                                                                                                                                                                                                                                                                                                                           C;Accession: JS0302

R;Carraway, R.E.; Cochrane, D.E.; Mitra, S.P.

Regul. Pept. 22, 303-314, 1988

A;Title: Kenopsin-related peptide generated in avian gastric extracts.

A;Reference number: JS0302; MUID:89042995

A;Accession: JS0302

A;Mccession: JS0302

A;Mccession: JS0302

C;Comment: The peptides are present within several tissues primarily in C;Superfamily: yeast coatomer complex alpha chain; WD repeat homology C;Keywords: neuropeptide

F;1-9/Product: xenopsin-related peptide 2 #status experimental <XP2>

F;2-9/Product: xenopsin-related peptide 1 #status experimental <XP1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N;Contains: xenopsin-related periode 1
C;Species: Meleagris gallopavo (common turkey)
C;Date: 31-Mar-1990 #sequence_revision 31-Mar-1990 #text_change 18-Aug-2000
C;Accession: JS0302
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C;Species: Mus musculus (house mouse)
C;Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 17-Mar-1999
C;Accession: PH1408; PH1405
R;Shirasawa, T.; Miyazoe, I.; Hagiwara, S.; Kimoto, H.; Shigemoto, K.; Taniq
J. Exp. Med. 176, 1209-1214, 1992
                                                                                                                                                    RESULT
A60320
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A;Reference number: A60320; MUID:91018491
A;Accession: A60320
A;Molecule type: protein
A;Residues: 1-9 <CAR>
A;Note: the authors purified these peptides from pepsin-treated extracts of C;Comment: Xenopsin and Xenopsin-related peptides are similar to neurotensin C;Superfamily: yeast coatomer complex alpha chain; WD repeat homology C;Keywords: neuropeptide
F;1-9/Product: xenopsin-related peptide 2 #status experimental <MAT1>
F;2-9/Product: xenopsin-related peptide 1 #status experimental <MAT1>
                                                                                                                                                                                                                                                                                                                                                  dermorphin (Trp-4, Asn-7) [validated] - two-colored leaf frog (fragment) C;Species: Phyllomedusa bicolor (two-colored leaf frog) C;Date: 19-Mar-1997 #sequence_revision 10-Oct-1997 #text_change 18-Aug-2000 C;Accession: S21230
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A:Title: Homology and distribution of CO dehydrogenase A:Reference number: PL0138; MUID:90055678
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PL0139
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A;Molecule type: protein
A;Residues: 1-7 <MIG>
                                                                                                                                                                                                                                                                    R;Mignogna, G.; Severini, C.; Simmaco, M.; Negri, L.; Falconieri Erspamer, G.; FEBS Lett. 302, 151-154, 1992
A;Title: Identification and characterization of two dermorphins from skin extra A;Reference number: S21152; MUID:92339502
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C:Accession: PL0139
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1; Mismatches 0;
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R:Duve, H.; Johnsen, A.H.; Sewell, J.C.; Scott, A.G.; Orchard, I.; Rehfeld, J.F.; Thorpe Proc. Natl. Acad. Sci. U.S.A. 89, 2326-2330, 1992
A:Title: Isolation, structure, and activity of -Phe-Met-Arg-Phe-NH-2 neuropeptides (desi A; Reference number: A41978; MUID:92196111
A; Accession: D41978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Duve, H.; Johnsen, A.H.; Sewell, J.C.; Scott, A.G.; Orchard, I.; Rehfeld, J.F.; Thorp Proc. Natl. Acad. Sci. U.S.A. 89, 2326-2330, 1992
A;Title: Isolation, structure, and activity of -Phe-Met-Arg-Phe-NH-2 neuropeptides (des A;Reference number: A41978; MUID:92196111
A;Accession: A44787
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Best Local Similarity
"atches 2; Conserv?
A;Molecule type: protein
A;Residues: 1-9 <DUV>
C;Keywords: amidated carboxyl end; neuropeptide
F;9/Modified site: amidated carboxyl end (Phe) #status
                                                                                                                                                                                                                                                         C;Species: Calliphora vomitoria
C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 17-Mar-1999
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A; Residues: 1-8 < RES>
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C;Species: Mus sp. (mouse)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 28-Feb-1997
C;Accession: I57018
                                                                                                 A; Status: preliminary
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Best Local S
Matches 2
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Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 17-Mar-1999;
Accession: A44787
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Pred. No. 2.2e+05;
2; Mismatches 2
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Pred. No. 2.2e+05;
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locustamyotropin III - migratory locust
C;Species: Locusta migratoria (migratory locust)
C;Date: 21-Jul-1995 #sequence_revision 28-Jul-19
C;Accession: A61620
                                                                                                                                                                                                              Query Match
Best Local Similarity
"~+~hes 3; Conserva
                                                                                                                                                                                                                                                                                                                                                                                C;Species: Comamonas testosteroni
C;Date: 15-Feb-1997 #sequence_revision 13-Mar-1997 #text_change 17-Mar-1999
C;Accession: S66007
R;Schach, S.; Tshisuaka, B.; Fetzner, S.; Lingens, F.
Eur. J. Biochem. 232, 536-544, 1995
A;Title: Quinoline 2-oxidoreductase and 2-oxo-1,2-dihydroquinoline 5,6-dioxygenase
A;Reference number: S66606; MUID:96035889
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S66607
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R:Brand, N.J.; Petkovich, M.; Chambon, P.
Nucleic Acids Res. 18, 6799-6806, 1990

A:Title: Characterization of a functional
A:Reference number: S15594; MUID:91088249
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A;Note: this ORF from Fig. 2 is not annotate
C;Comment: This sequence is not thought to l
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A; Residues: 1-6 <BRA>
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C;Date: 04-Jun-1999 #sequence_revision 04-Jun-1999 #text_change 28-Jun-1999
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G.M.; Hayes, T.K.; Nachman,
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translated
R.J.; Kochansky, J.P.; De Loof,
                                #text_change 11-Jul-1997
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Ig H chain V-D-J region (wild-type clone 142) - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Jate: 02-Jun-1994 #sequence_revision 02-Jun-1994 #text_change 17-Mar-1999
C;Accession: PH1591
R;Levinson, D.A.; Campos-Torres, J.; Leder, P.
J. Exp. Med. 178, 317-329, 1993
A;Title: Molecular characterization of transgene-induced immunodeficiency in B-less mice A;Reference number: PH1580; MUID:93301609
A;Accession: PH1591
A;Accession: PH1591
A;Accession: PH1591
A;Residues: 1-9 cLEV>
A;Experimental source: bone marrow pre-B lymphocyte
C;Keywords: immunoglobulin
                                                                                                                                                                                                                                                                                                                                                 subesophageal ganglion pentapeptide - house cricket C;Species: Acheta domesticus (house cricket) C;Date: 07-Sep-1990 #sequence_revision 07-Sep-1990 #text_change 20-Jun-2000 C;Accession: JS0319 R;Wicker, C.; Wicker, C. Comp. Biochem. Physiol. C 88, 185-187, 1987 A;Title: Isolation and structure of a peptide isolated from the suboesophageal ganglion A;Reference number: JS0319 A;Accession: JS0319
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watches 2; Conserve
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A;Title: Isolation, identification and synthesis of locustamyotropin III and IV, two add A;Reference number: A61620
A;Recession: A61620
A;Status: preliminary
A;Molecule type: protein
A;Residues: 1-9 <SCH>
C;Keywords: amidated carboxyl end; neuropeptide
F;9/Modified site: amidated carboxyl end (Leu) #status experimental
Search completed: October 23, 2001, 13:29:50 Job time: 168 sec.
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Best Local Similarity 44.4%;
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Copyright (c) 1993 - 2000 Compugen Ltd
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OXYF_SCYCA
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DNF1_LOCMI
NEUX_HUMAN
NEUX_RAT
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24.468 Million cell updates/sec
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44 KDA IMMUNOGENIC PROTEIN (FRAGMENT).
Bacteria; CFB group; Bacteroides gingivalis).
Bacteria; CFB group; Bacteroidaceae; Porphyromonas.
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Electrophoresis 20:1098-1108(1999).
Electrophoresis 20:1098-1108(1999).
The Determined Time May IS: 25 KDA.
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Coniferopsida; Coniferales; Pinaceae; Pinus.
STRAIN-VPB 3492
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Scyliorhinus canicula (Spotted dogfish) (
Eukaryota; Metazoa; Chordata; Craniata; V
Elasmobranchii; Galeomorphii; Galeoidea;
Scyliorhinidae; Scyliorhinus.

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Arch. Microbiol. 152:335-341(1989).
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Norris J.M., Love D.N.;
"Serum antibody responses of cats to soluble v
"Serum prophyromonas gingivalis.";
Vet. Microbiol. 73:37-49(2000).
"In SIMILARITY: TO P.GINGIVALIS HEMAGGLUTININ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hydrogenophaga.
NCBI_TaxID=47421;
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Bacteria; Proteobacteria; beta subdivision;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Oxidoreductase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -!- COFACTOR: MOLYBDENUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
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APY 3
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3; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
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                                                                                                                                                                                                                                                                                                                           STANDARD;
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32,
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Last sequence update)
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9.3e+04;
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9.3e+04
                                                                  (Spotted catshark).
Vertebrata; Chondri
; Carcharhiniformes;
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RESULT 8
FAR4_CALVO
                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 60.0%;
"atches 3; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-Nerve endings;

MEDLINE=92270139; PubMed=1589145;

Reich G.;

Reich G.;

A new Peptide of the oxytocin/vasopressin family isolated from nerves of the cephalopod Octopus vulgaris.";

-!- FUNCTION: HAS A ROLE IN THE NEUROSECRETORY SYSTEM OF THE VENA
                                                                                                                                                                                                                                                                           3 FRNCP 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Octopus vulgaris (Octopus).
Bukaryota, Metazoa; Mollusca; Cel
Incirrata; Octopodidae; Octopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE.
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01-MAR-1992 (Rel. 21, Last sequence update)
CEPHALOTOCIN.

12, Last annotation update)
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                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA; 1072 MW;
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Acher G.;
Acher R.;
Acher R.;
Acher G.;
Acher R.;
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PROC. DISPANION.
1. SIMILARITY.
1. STATEMENT STATEMENT
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                                                                                                                                                                                                                                                                                                                               Score 17; DB 1;
Pred. No. 9.3e+04
0; Mismatches
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17FF476EB45409DB CRC64;
                 PRT;
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Pred. No. 9.3e+04;
**"smatches 2;
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2;
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Query Match
Best Local Similarity 33.38,
Matches 2; Conservative
                                                                                                                                                                                                  C TISSUE-Thoracic ganglion;
RX MEDLINE-92196111; PubMed-1549595;
RA Duve H., Johnsen A. H., Sewell J.C., Scott A.G., Orchard I.,
RT TSolation, Structure, and activity of -Phe-Met-Arg-Phe-NH2
RT Calliphora vomitoria, ";

PTOC. Natl. Acad. Sci. U.S.A. 89:2326-2330(1992).

"I SCHART TY: BELONGS TO THE FARP (FMRFAMIDE RELATED PEPTIDE)
                                                                                                                                                              Neuropeptide; Amidation.
MOD_RES 9
UNGURE 9
SEQUENCE 9 AA; 1183 MW;
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Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Costroidea; Calliphoridae; Calliphora.
RUBI_TaxID=27454; Muscomorpha,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FARA_CALVO STANDARD;
P41865;
P41865;
P1.NOV-1995 (Rel. 32, Created)
01.NOV-1995 (Rel. 32, Last sequence update)
01.NOV-1995 (Rel. 32, Last annotation update)
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROTECTION OF THE FARP (FMRFAMIDE RELATED PEPTIDE)
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les 2; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               #ISSUE-Thoracic ganglion;
#EDLINE-92196111; PubMed=1549595;
Duve H., Johnsen A.H., Sewell J.C., Scott A.G., Orchard I.,
"Isolation, structure, and activity of -Phe-Met-Arg-Phe-NH2
"The structure, and activity of -Phe-Met-Arg-Phe-NH2
                                                                                                                                                          1
9 AA; 1183 MW;
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01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
CALLIFMERAMIDE 4. 32, Last annotation update)
Eukaryota; Metazoa; Arthropoda; Tracheata; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta, NCBI_TaxID=27454; Discreption of the composition of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9 AA; 1182 MW;
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                              31.4%; Score 16; DB 1;
33.3%; Pred. No 9 3e+0;
tive 2, Mismatches
                                                                                                                     AMIDATION.
OR S OR A.
29D00699CAB40457 CRC64;
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33.38;
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31730699CAB6D457 CRC64;
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MEDLINE-93139764; pubMed-1487733;
MEDLINE-93139764; Baats E., van Vorstenbosch C.J.A.H.V.,
MEDLINE-93139764; Baats E., van Vorstenbosch C.J.A.H.V.,
MEDLINE-93139764; Baats E., van Vorstenbosch C.J.A.H.V.,
Moopman M.B.H., Baats E., van Vorstenbosch C.J.A.H.V.,
Moopman M.B.H., Baats E., van Vorstenbosch C.J.A.H. Treponema) hyodysenteriae are
mond der Zeijst B.A.M., Kusters J.G. in Filasmic flagella of serpulina (1992).

"The periplasmic flagella of serpulina (
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Bacteria: Spirochaetales; Brachyspiraceae; Brachyspira.
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C-MAY-2000 (Rel. 39, Last annotation update)
C-MAY-2000 (Rel. 39, Last annotation FLAA2 (35 KDA SHEATH PROTEIN)
C-MAY-2000 (Rel. 39, LAST ANTOTEIN FLAA2)
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pred. No. 9.3e+04;
pred. No. 0;
1; Mismatches
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NCBI_TaxID=6759;
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MEDLINE-98121193; PubMed-9461295;
MEDLINE-98121193; PubMed-9461295;
MEDLINE-98121193; PubMed-9461295;
MEDLINE-98121193; PubMed-9461295;
MEDLINE-1, Johnsen A.H., Macestro J.-L., Scott A.G., Jaros P.P.,
"Isolation and identification of multiple neuropeptides of the "Isolation and identification of multiple neuropeptides ";" allatostatin superfamily in the shore crab Carcinus maenas.";
allatostatin superfamily 10 the shore crab carcinus maenas.";
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LMT3_LOCMI STANDARD;

p41489;
p 01-NOV-1995 (Rel. 32, Last sequence update)
r 01-NOV-1995 (Rel. 32, Last annotation update)
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SIMILARITY: BELONGS TO THE ALLATOSTATIN FAMILY.
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milarity 28.6%;
Conservative
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                                                                                                                                                                                                                                                                                                       NCBI_TaxID=7004;
                                                                                                                                                                                                             SEQUENCE, AND SYNTHESIS.
                                                                 Schoofs L.,
de Loof A.;
                                                                                                                                                                          TISSUE-Brain;
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2; Conservative
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Amidation; Multigene family. 7.
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                                                                                                                                  Holman G.M., Hayes T.K., Nachman R.J., Kochansky J P ,
                                             identification and synthesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 825 MW;
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pred: No. 9.3e+04;
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922879CDCB4775BD CRC64;
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pred. No. 9.3e+04;
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'Isolation'

us-09-625-963-1.closed.rsp

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RESULT 14
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ID SUGA_A
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DT 01-FEE
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DT 01-FEE
CS AChett
OS Eukar:
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locustamyotropin peptide family.";
linsect Blochem Mol Biol. 22:447-452(1992).
-i- FUNCTION: POTENT MEDIATOR OF VISCERAL MUSCLE CONTRACTILE ACTIVITY
-i- FUNCTROPIC ACTIVITY).
-i- SIMILARITY: BELONGS TO THE PYROKININ FAMILY.
-i- SIMILARITY: BALONGS TO THE PYROKININ FAMILY.
-i- SIMILARITY BALONGS TO THE PYROKININ FAMILY.
-i- SIMI
RESULT 15
ALL3_CARMA
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P19991;
P19991 (Rel. 17, Created)
O1-FEB-1991 (Rel. 17, Last sequence update)
O1-FEB-1996 (Rel. 34, Last annotation update)
O1-OCT-1996 (Rel. 34, Last annotation update)
SUBDESOPHAGEAL GANGLION PENTAPEPTIDE.
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Acheta domesticus (House cricket).

Bukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;

Butaryota; Meoptera; Orthopteroidea; Orthoptera; Ensifera; Gryllidae;

Gryllinae; Acheta.

NCBI_TaxID=697;
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SEQUENCE
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-i- Subcesophageal Location: MAIN PEPTIDE FROM THE SUBOESOPHAGEAL -1- SUBCESOPHAGEAL -1- SUB
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                                                                                                                                                                                                                       Carcinus maenas (Common shore crab) (Green crab).
Eukaryota; Metazoa; Arthropoda; Crustacea; Malacostraca;
Eumalacostraca; Eucarida; Decapoda; Pleocyemata; Brachyura;
Eubrachyura; Portunoidea; Portunidae; Carcinus.
                                                                                                                                                                                                                                                                                                                                                                                                                           P81806;
30.MAY-2000 (Rel. 39, Created)
30.MAY-2000 (Rel. 39, Last sequence update)
30.MAY-2000 (Rel. 39, Last annotation update)
30.MAY-2000 (Rel. 39, Last annotation update)
CARCINUSTATIN 3.
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TISSUE-Cerebral ganglion, and Thoracic ganglion; MEDLINE-98121193; PubMed-9461295;
                                                                                                                                                                                   NCBI_TaxID=6759;
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AA; 476 MW;
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pred. No. 9.3e+04;
0; Mismatches 5
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pred. No. 9.3e+04;
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search completed: October 23, 2001, 13:34:05 Job time: 277 sec
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Best Local ;
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Eur. J. Biochem. 250:727-734 (1997).

Eur. J. Biochem. 250:727-734 (1997).

I. FUNCTION: MAY ACT AS A NEUROTRANITTER OR NEUROMODULATOR.

I. SUMILARITY: BELONGS TO THE ALLATOSTATIN FAMILY.

Neuropeptide; Multigene family.

Neuropeptide; Multigene family.

SEQUENCE 7 AA; 796 MW; 672879CDCB476B70 CRC64;
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GenCore version 4.5 (c) 1993 - 2000 Compugen Ltd.

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Result
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ALIGNMENTS

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O9UJ50 PRELIMINARY; PRT; 8 AA. Q9UJ50; O1-MAY-2000 (TIEMBLIEL. 13, Created) O1-MAY-2000 (TIEMBLIEL. 13, Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Finger L.R., Pu J., Wasserman R., Vibhakar R., Louie E., Hardy Burrows P.D., Billips L.G.;
"The human PD-1 gene: complete cDNA, genomic organization, and developmentally regulated expression in B cell progenitors."; Gene 197:177-187(1997).
EMBL; U64864; AAC5174.1; -.
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OSUMF3; O1-MAY-2000 (TrEMBLrel. 13, Created)
O1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
O1-MAY-2000 (TrEMBLrel. 13, Last annotation update)
PD-1 PROTEIN (FRAGMENT).
PD-1.
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID-9606;
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Pred. No. 4.2e+05;
1; Mismatches 1;
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SEQUENCE FROM N.A.
MEDLINE-99153747; PubMed=10030676;
White G.R.M., Varley J.M., Heighway J.;
"Isolation and characterisation of a human homologue of the "Isolation and characterisation of 1p31.1 implicated in breast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (Human)
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LATROPHILIN-2 (FRAGMENT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last saquence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
PYROKIMIN-2 (PEA-PK-2) (FXPKL-AMIDE).
Periplaneta americana (American cockroach).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Orthopteroidea; Dictyoptera; Blattaria;
Blattaidea; Blattidae; Periplaneta.
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P82692;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE, FUNCTION, AND TISSUE=CORPORA CARDIACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=6978;
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                                                                                                                                                                                                                                       "Tagma-specific distribution of FXPRLamides
                                                                                                                                                                                                                                                                                                                TISSUE SPECIFICITY
SEQUENCE
                                  Neuropeptide;
MOD_RES
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                                                                                                                                               Comp. Neurol. 419:352-363(2000).
- FUNCTION: MEDIATES VISCERAL MUSCLE CONTRACTILE (MYOTROPIC ACTIVITY).
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                                                                         TISSUE SPECIFICITY: CORPORA CARDIACA.
MASS SPECTROMETRY: MW-883; METHOD-WALDI
SIMILARITY: BELONGS TO THE PYROKININ FAI
                                                                                                                                                                                                                 American cockroach.
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Primates;
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e EMBL/GenBank/DDBJ
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2; Mismatches
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              AMIDATION.
C834176DD9D77775 CRC64;
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Matches 4; Conservative
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Q9UM87;
Q1-MAY-2000
Q1-MAY-2000
Q1-MAY-2000
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Yamazaki
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                                                                                                                                                                                             P82429 PRELIMINARY; PRT; 9 AA.
P82429;
01-JUN-2000 (TrEMBLrel. 14, Created)
01-JUN-2000 (TrEMBLrel. 14, Last sequence up
01-JUN-2000 (TrEMBLrel. 14, Last annotation
01-JUN-2000 (TrEMBLrel. 14, Last annotation
04 KDA CELL WALL PROTEIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                      growth
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NON_TER
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                                                                                                                                                          Nicotiana tabacum (Common tobacco).
Eukaryota; Viridiplantae; Embryophyta;
Magnoliophyta; eudicotyledons; core eu
Solanales; Solanaceae; Nicotiana.
                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                        NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                       Rinsho
                                                    Planta 0:0-0(2000).
-!- SUBCELLULAR LOCATION:
-!- TISSUE SPECIFICITY: X
                                                                                        STRAIN=CV. PETIT HAVANA;
Blee K.A., Bonham V.A., Mitchell
Woltaszek P., Bolwell G.P.;
"Proteomic study of secondary cel
                                                                                                                               SEQUENCE
                                                                                                                                                 NCBI_TaxID=4097;
                                            Cell wall.
                                                                                tobacco culture."
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Y., Ohtani H.;
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M., Toyo-oka Y.,
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33.3%;
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eudicots; Asteridae; euasterids
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                                              SEQUENCE FROM N.A.
STRAIN=NRRL-Y1140;
MEDLINE=99448382; PubMed=10518937;
MEDLINE=99448382; PubMed=10518937;
Lamas-Maceiras M., Esperanza Cerdan E., Frei
"Kluyveromyces lacxtis HIS4 transcriptional
and differences to Saccharomyces cerevisiae
FEBS Lett. 458:72-76(1999).
EMBL; AJ238494; CAB87125.1; -.
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01-OCT-2000
01-MAR-2001
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01-MAY-2000
                                    EMBL; AC NON_TER
                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Fungi; Ascomycota; Saccharon Saccharomycetales; Saccharomycetaceae;
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      SEQUENCE
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BL; D90705; BAA35310.1; -.
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01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
BIOACTIVE PEPTIDE P4-PUTATIVE ESOPHAGEAL NEUROREGULATOR.
                                                                                                                                                               "The apolipoprotein A-I binding protein protein of human blood are different pro apolipoprotein A-I", Biochim. Biophys. Acta 1086:255-260(1991)
                                                                                                                                                                                                                                                                     MEDLINE=92075698; PubMe
Ehnholm C., Bozas S.E.,
Murphy B., Walker I.D.;
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Toxicol. Endocrinol. 110:297-304(1995).
8 AA; 989 MW; 954772CAA87B0B59 CRC64;
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S.E., Tenkanen
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Pred. No. 4.2e+05;
1; Mismatches 1
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Score 15; DB
Pred. No. 4.26
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1 O9S8J8;
1 O1-MAY-2000 (TrEMBLrel. 13, Creat, T O1-MAY-2000 (TrEMBLrel. 13, Last JT O1-MAY-2000 (TREMBLRel. 13, Last JT O1-MAY-2000 (TREMBLRel. 13, Last JE ORYZATENSIN-BIOACTIVE PEPTIDE. OS Oryza sativa (Rice).

OS Cryza sativa (Rice).

CE Eukaryota; Viridiplantae; Embryc Crypoliophyta; Liliopsida; Poal
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BA90M5.3 (HCG-1) (FRAGMEN

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01-MAY-1999
01-MAY-1999
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                 Takahashi M., Moriguchi S., Yoshikawa M., Sasaki R.; "Isolation and characterization of oryzatensin: a novel bioactive peptide with ileum-contracting and immunomodulating activities defeated."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (JUL-2000) to the EMBL; AL139188; CAC15103.1; NON_TER 9
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Eukaryota; Metazoa;
Mammalia; Eutheria;
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RESULT
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P82858;
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URICASE (EC
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01-NOV-1996
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SEQUENCE
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Q07624;
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MEDITNE-86120353; PubMed-3003688;

MIDENTNE-86120353; PubMed-3003688;

Sijben-Mueller G., Hallick R.B., Alt J., Westhoff P.,

Sijben-Mueller G., Hallick R.B., Alt J., Westhoff P.,

"Spinach plastid genes coding for initiation factor IF

"Spinach plastid genes coding for initiation factor I
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=PRAGUE C;
MEDLINE=93010967; PubMed=1327749;
Donze O., Spahr P.F.;
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   Puccinia recondita f. sp. triseti
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                             (TIEMBLrel. 16, Created)
(TIEMBLrel. 16, Last sequence update)
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(TIEMBLrel. 16, Last annotation update)
1.7.3.3) (URATE OXIDASE) (FRAGMENT).
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PROTEIN (FRAGMENT).
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Submitted (NOV-2000) to the SWISS-PROT data bank.

C -!- FUNCTION: INVOLVED IN HOST-PARASITE RELATIONSHIP BETWEEN PLANTS

C -!- CATALYTIC ACTIVITY: URATE + O(2) + H(2)O = 5-HYDROXYISOURATE +

C H(2)O(2) (5-HYDROXYISOURATE DECOMPOSE TO FORM ALLANTOIN).

-!- SUBCELLULAR LOCATION: PEROXISOMAL (BY SIMILARITY).

-!- SUBCELLULAR LOCATION: PEROXISOMAL (BY SIMILARITY).

C -!- SUBCELLOPMENTAL STAGE: GERMINATION.

-!- SUMLIARITY: BELONGS TO THE URICASE FAMILY.

PROSITE; PS00366; URICASE; PARTIAL.

OXIDOTECHORSE; PUTINE metabolism; Peroxisome.

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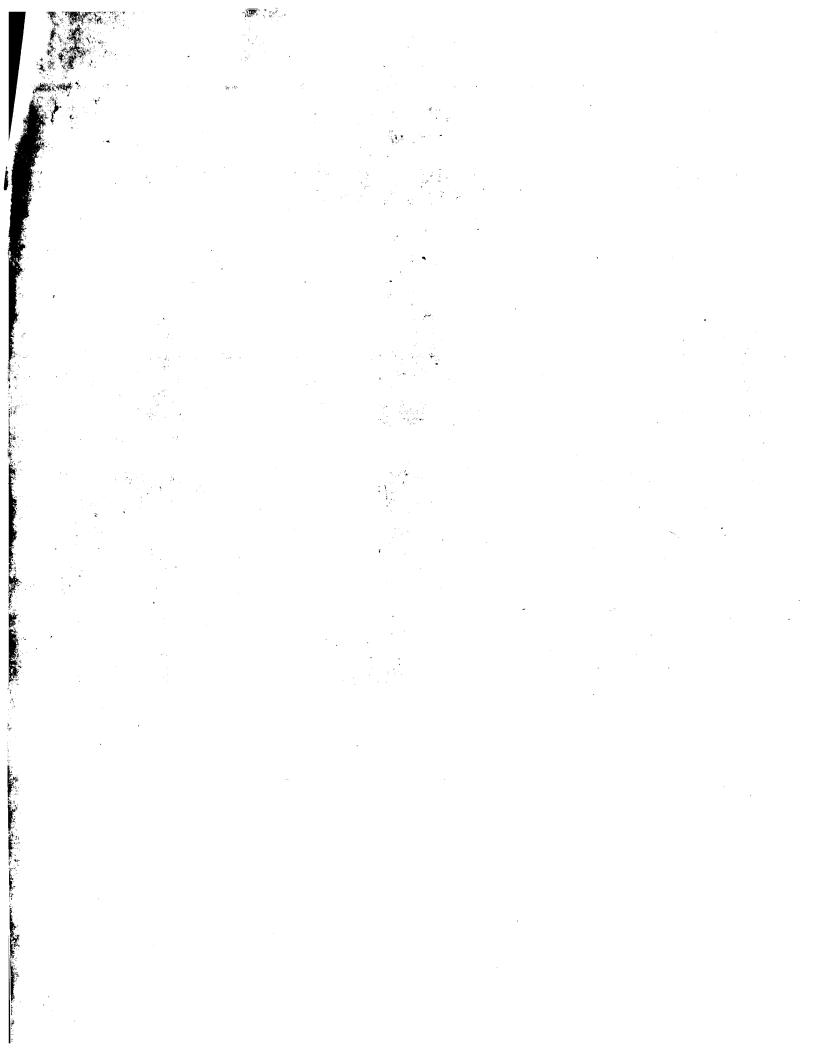
SEQUENCE 8 AA; 777 MW; 98C1ADD735B9D76D CRC64;
                                                                                                                                                                                        SEQUENCE.
MEDLINE-92112868; PubMed-1309786;
Nice E.C., Fabri L., Hammacher A., Holden J., Simpson R.J.,
                                                                                                                                                                                                                                                                                                                                             Q9TRU7 PRELIMINARY; PRT; 9 AA.
Q9TRU7;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-MAY-2000 (TrEMBLrel. 13, Last annotation update)
GAP-3, GTPASE-ACTIVATING PROTEIN.
                                                                                                                                      "The purification of a Rapl GTPase-activating brain cytosol.";
J. Biol. Chem. 267:1546-1553(1992).
SEQUENCE 9 AA; 1063 MW; 89EDA77B47604B5A C
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea; Bovidae; Bos.

MCBI_TaxID-9913;
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Pucciniaceae; Puccinia.
NCBI_TaxID=142679;
7 PY 8
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267:1546-1553(1992).
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| RESULT 2 US-09-164-223-293 ; Sequence 293, Application US/09164223 ; GENERAL INFORMATION: ; APPLICANT: Gaiger, Alexander | Ouery Match 100.0%; Score 51; DB 15; Length 9; Best Local Similarity 100.0%; Pred. No. 2.6e+06; Matches 9; Conservative 0; Mismatches 0; Indels Oy 1 RMFPNAPYL 9 - 1111111111111111111111111111111111 | RESULT 1 US-09-164-223-185 US-09-164-223-185 Sequence 185, Application US/09164223 GENERAL INFORMATION: APPLICANT: Gaiger, Alexander APPLICANT: Cheever, Martin A. TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC FILE REFERENCE: 210121.465 CURRENT APPLICATION NUMBER: US/09/164,223 CURRENT FILING DATE: 1998-09-30 NUMBER OF SEQ ID NOS: 320 SOFTWARE: Patentin Ver. 2.0 SEQ ID NO 185 LENGTH: 9 TYPE: PRT ORGANISM: Homo sapiens US-09-164-223-185 | ALIGNMENTS | 11 51 100.0 9 19 US-09-523-419-185 Sequence of the control of the |
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US-09-164-223-185
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Sequence 185, Application US/09164223A
; GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
; APPLICANT: Cheever, Martin A.
; APPLICANT: Cheever, Martin A.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
; FILE REFERENCE: 210121.465
                                                                                                                                            US-09-164-223-293
Sequence 293, Application US/09164223A
Sequence 293, Application US/09164223A
GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Gaiger, Martin A.
TITLE OE INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
CCURRENT APPLICATION NUMBER: US/09/164,223A
CURRENT APPLICATION NUMBER: US/09/164,223A
CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
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NUMBER OF SEQ ID NOS: 320
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NUMBER OF SEQ ID NOS: 320
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TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
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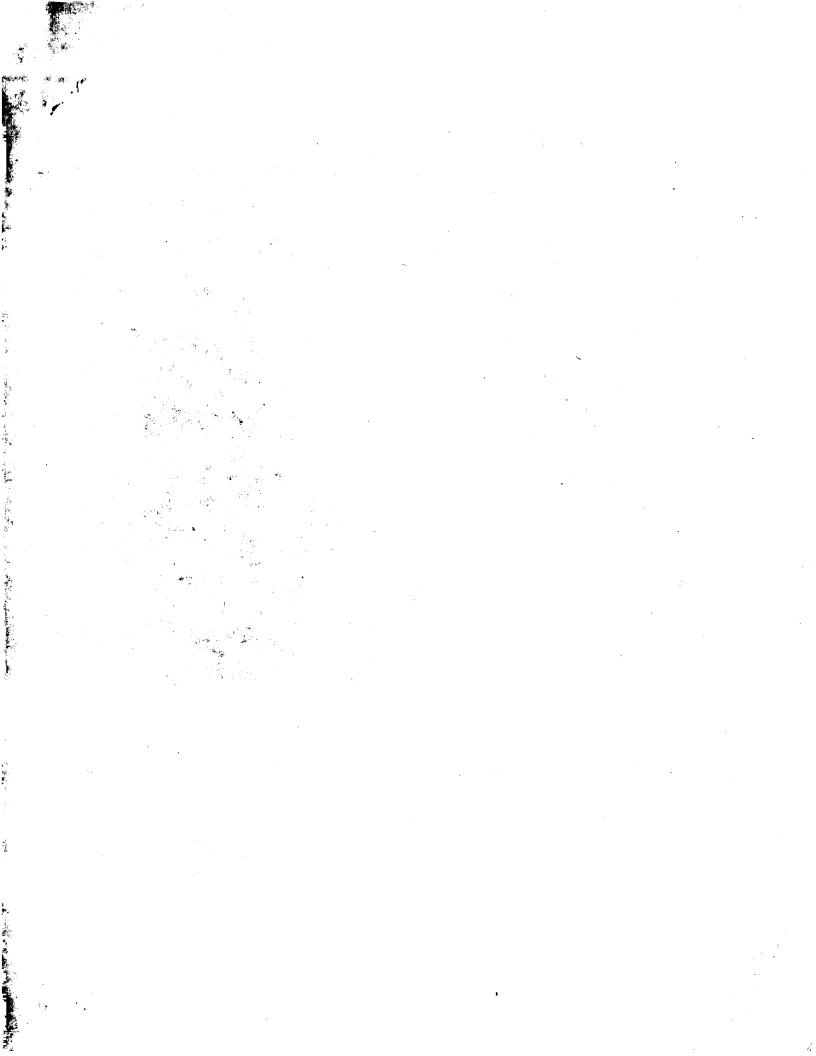
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CURRENT APPLICATION NUMBER: US/09/164,223B
CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 293
LENGTH: 9
TYPE: PRT
ORGANISM: Mus musculus
US-09-164-223-293
Sequence 185, Application US/09276484
GENERAL INFORMATION:
APPLICANT: Gaiger, Martin A.
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C1
CURRENT APPLICATION NUMBER: US/09/276,484
CURRENT FILING DATE: 1999-03-25
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Best Local Similarity
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SEQ ID NO 185
LENGTH: 9
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GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
CURRENT APPLICATION UNMEER: US/09/164,223B
CURRENT FILING DATE: 1998-09-30
NUMBER OF SEQ ID NOS: 320
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GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1 SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465
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Best Local Similarity
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Pred. No. 2.6e+06;
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                                                                       FOR WT1
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Query Match
Best Local Similarity
"here 9; Conserve
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US-09-276-484A-185
; Sequence 185, Application US/09276484A
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Sequence 293, Application US/09276484
GENERAL INFORMATION:
APPLICANT: Galger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C1
                                                                                                           ; ORGANISM: Homo sapien US-09-276-484A-185
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; ORGANISM: Homo sapien
US-09-276-484-185
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Best Local S
Matches 9
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APPLICANT: Gaiger, Alexander
APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITONS AND METHODS FOR WT1 SPECIFIC
TITLE OF INVENTION: IMMUNOTHERAPY
FILE REFERENCE: 210121.465C1
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CURRENT FILING DATE: 1999-03-25
NUMBER OF SEQ ID NOS: 326
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 293
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SEQ ID NO 185
LENGTH: 9
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Matches 9; Conserv
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 326
SOFTWARE: FastSEQ for Windows Version 3.0
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                               100.0%; Score 51; DB 16; 100.0%; Pred. No. 2.6e+06;
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               0,
               Mismatches
                                              Length 9;
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             Indels
             0;
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RESULT 10
US-09-276-484A-293
; Sequence 293, Application US/09276484A
; GENERAL INFORMATION:
- APPLICANT: Gaiger, Alexander
- APPLICANT: Gaiger, Martin A.
                                                                                                    RESULT 12
US-09-523-419-293
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Sequence 293, Application US/09523
GENERAL INFORMATION:
APPLICANT: Hendrickson, Ronald C.
APPLICANT: Probst, Peter
APPLICANT: Reed, Steven G.
                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: METHODS FOR THE DIAGNOSIS AND THERAPY
TITLE OF INVENTION: OF CHLAMYDIA INFECTION
FILE REFERENCE: 210121.492
CURRENT APPLICATION NUMBER: US/09/523,419
CURRENT FILING DATE: 2000-03-10
NUMBER OF SEQ ID NOS: 326
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 185
LENGTH: 9
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Best Local Similarity
Matches 9; Conserv
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Best Local Similarity 100.0%;
Matches 9; Conservative 0
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APPLICANT: Cheever, Martin A.
TITLE OF INVENTION: COMPOSITONS AND METHODS FOR WT1 SPECIFIC
TITLE OF INVENTION: IMMUNOTHERAPY
FILE REFERENCE: 210121.465C1
CURRENT APPLICATION NUMBER: US/09/276,484A
CURRENT ETLING DATE: 199-03-25
PRIOR APPLICATION NUMBER: US 09/164,223
PRIOR APPLICATION NUMBER: US 09/164,223
PRIOR FILING DATE: 1999-09-30
NUMBER OF SEQ ID NOS: 326
NUMBER OF SEQ ID NOS: 326
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                                                                                   Application US/09523419
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Pred. No. 2.6e+06;
; Mismatches 0;
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APLICANT: Cheever, Martin
APLICANT: Reed, Steven G.
FITTLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
FITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.33
CURRENT APPLICATION NUMBER: US/09/679,339
CURRENT FILING DATE: 2000-10-04
NUMBER OF SEQ ID NOS: 357
SOFTWARE: FastSEQ for Windows "
SEQ ID NO 185
LENGTH: 9
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APPLICANT: Gao, Liquan
TITLE OF INVENTION: Immunotherapeutic Metho
TITLE OF INVENTION: GATA-1
FILE REFERENCE: ICI 101
CURRENT APPLICATION UMBER: US/09/625,963
CURRENT FILING DATE: 2000-07-26
PRIOR APPLICATION NUMBER: DCT/GB99/03572
PRIOR APPLICATION NUMBER: GB9823897.5
PRIOR APPLICATION UMBER: GB9823897.5
PRIOR FILING DATE: 1998-11-02
PRIOR FILING DATE: 1998-11-02
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Best Local Similarity 100.
Thes 9; Conservative
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SEQ ID NO 1
LENGTH: 9
TYPE: PRT
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CURRENT FILING DATE: 2000-03-10
NUMBER OF SEQ ID NOS: 326
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 293
LENGTH: 9
TYPE: PRT
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Best Local Similarity
Matches 9; Conserv
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; SOFTWARE: FastSEQ for W1
; SEQ ID NO 293
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Mus musculus
US-09-679-339-293
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Search completed: October 23, 2001, 13:26:59 Job time: 412 sec
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                                                                                                                  Query Match
Best Local Similarity
Thes 9; Conserv
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Best Local Similarity
Thes 9; Conserv
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; Sequence 293, Applica
; GENERAL INFORMATION:
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CURRENT FILING DATE: 2000-10-04
NUMBER OF SEQ ID NOS: 357
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APPLICANT: Xu, Jiangchun
APPLICANT: Cheever, Martin
APPLICANT: Cheever, Martin
APPLICANT: Reed Steven G.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.533
                                                                        1 RMFPNAPYL 9
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Pred. No.
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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1: /ggn2_6/ptodata/2/paa/PCT_NEW_COMB.pep:*

2: /cgn2_6/ptodata/2/paa/USO6_NEW_COMB.pep:*

3: /cgn2_6/ptodata/2/paa/USO7_NEW_COMB.pep:*

4: /cgn2_6/ptodata/2/paa/USO7_NEW_COMB.pep:*

5: /cgn2_6/ptodata/2/paa/USO9_NEW_COMB.pep:*

6: /cgn2_6/ptodata/2/paa/USO0_NEW_COMB.pep:*
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51
1 RMFPNAPYL 9
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              DB
    US-09-938-864-293
US-09-938-864-293
US-09-938-864-3
US-09-938-864-395
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US-09-938-864-395
US-09-938-864-395
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Sequence 185, App
Sequence 2, Appli
Sequence 3, Appli
Sequence 4, Appli
Sequence 4, Appli
Sequence 6, Appli
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Sequence 3, Appli
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| RES US- G G | Db M | US | | • |
|---|--|--|------------|---|
| SULT 2 Sequence 29 GENERAL INF APPLICANT: | Query Match Best Local Matches 1 RMF 1 RMF | SULT 1 Sequence 18 APPLICANT: APP | | 22266666666666666666666666666666666666 |
| ຼ 🦸 ພັ າ | tch al Simila 9; Co RMFPNAPYL | 864-185 185, All TIFORM NT GAIL NAT MCI NAT MCI NAT MCI NAT MCI NAT MCI NAT SI NAT SI NAT SOLO NAT SOL | | 44448888888888888888888888888888888888 |
| Applic Applic ATION: iger, cneill mithga oulton oulton edvick leath, leath, leath, rossman vans, | ilarity Conserva PYL 9 | RESULT 1 Sequence 185, Application US/0 GENERAL INFORMATION: APPLICANT: Gaiger, Alexander APPLICANT: Gaiger, Alexander APPLICANT: McNeill, Patricia APPLICANT: McNeill, Molly APPLICANT: Seight, Molly APPLICANT: Steath, Paul R. APPLICANT: Steath, Paul R. APPLICANT: Evans, Lawrence APPLICANT: Evans, Lawrence APPLICANT: Boydston, Jeremy TITLE OF INVENTION: COMPOSITI TITLE OF INVENTION: SPECIFIC FILE REFERENCE: 210121, 46505 CURRENT APPLICATION NUMBER: U. CURRENT FILING DATE: 2001-08 NUMBER OF SEQ ID NOS: 413 SOFTWARE: FastSEQ for Windows SEQ ID NO 185 LENGTH: 9 TYPE: PRT ORGANISM: Homo sapien US-09-938-864-185 | | 77777777777777777777777777777777777777 |
| ation US/0 Alexander Patricia II, Molly Gus Thomas S Paul R Sally Lawrence A. Gregory | 100 100 tive | ion US/09938 exander Patricia D. , Molly Gus Thomas S. aul R. Sally wrence Gregory Jeremy Jer | | 9 9 9 9 9 11 11 11 11 11 11 11 11 11 11 |
| s/09 er cia ly ly s s. | . 0 . | S/09 S S S S S S S S S S S S S S S S S S S | | 5 5 5 5 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 |
| 9938864 D | Score 51; DB 5; Length Pred. No. 2.9e+05; 0; Mismatches 0; Indel | US/09938864 der icia D. ily as S. R. y gory emy sitions and methods for will IFIC IMMUNOTHERAPY 5C5 R: US/09/938,864 1-08-24 dows Version 3.0 | ALIGNMENTS | US-09-938-864-324 US-09-938-864-79 US-09-938-864-267 US-09-938-864-323 US-09-938-864-407 PCT-US01-08631-54140 US-09-834-366-26444 US-09-834-366-26444 US-09-844-366-264492 PCT-US01-08631-54144 US-09-844-366-26492 PCT-US01-08631-54144 US-09-760-475-2254 PCT-US01-08631-54147 US-09-760-475-2252 US-09-760-475-2252 US-09-760-475-2252 US-09-760-475-2252 US-09-760-475-2252 US-09-760-475-2252 US-09-760-475-2252 |
| | 9; Ls 0; Gaps | | | Sequence 324, App Sequence 79, App1 Sequence 267, App Sequence 407, App Sequence 54140, App Sequence 54144, A Sequence 54144, A Sequence 134, App Sequence 24922, Ap Sequence 27922, Ap Sequence 2794, App Sequence 3717, App |
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APPLICANT: EVANS, LAWYENCE

APPLICANT: Spies, A. Gregory

APPLICANT: Spies, A. Gregory

APPLICANT: Boydston, Jeremy

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1

TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY

FILE REFERENCE: 210121.465C5

CURRENT APPLICATION NUMBER: US/09/938,864

CURRENT FILING DATE: 2001-08-24

NUMBER OF SEQ ID NOS: 413

SOFTWARE: FastSEQ for Windows Version 3.0

SEQ ID NO 2

LENGTH: 23

TYPE: PRT

ORGANISM: Homo sapien

US-09-938-864-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; APPLICANT: Boydston, Jeremy
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
; TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
; FILE REFERENCE: 210121.465C5
; CURRENT APPLICATION NUMBER: US/09/938,864
; CURRENT FILING DATE: 2001-08-24
; NUMBER OF SEQ ID NOS: 413
; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 293
; LENGTH: 9

TYPE: DDM
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APPLICANT: Smithgall, Molly
APPLICANT: Smithgall, Molly
APPLICANT: Woulton, Gus
APPLICANT: Vedvick, Thomas S.
APPLICANT: Sleath, Paul R.
APPLICANT: Mossman, Sally
APPLICANT: Lawrence
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Best Local Similarity
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; ORGANISM: Mus musculus
US-09-938-864-293
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                     APPLICANT: Gaiger, Alexander APPLICANT: McNeill, Patricia D. APPLICANT: Smithgall, Molly APPLICANT: Moulton, Gus APPLICANT: Wedvick, Thomas S. APPLICANT: Vedvick, Thomas S. APPLICANT: Sleath, Paul R. APPLICANT: Mossman, Sally
                                                                                                                                                              Sequence 3, Application US/09938864 GENERAL INFORMATION:
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GENERAL INFORMATION:
APPLICANT: Gaiger, Alexander
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APPLICANT:
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Smithgall, Molly
                                                                                                                                                                                                                                                                                                                                                     Conservative
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                       ; Sequence 5, Application US/09929315
; GENERAL INFORMATION:
; APPLICANT: Gall, Katherine M.
; APPLICANT: Glaser, Thomas M.
; APPLICANT: Ito, Caryn Y.
; APPLICANT: Buckler, Alan J.
; APPLICANT: Pelletier, Jerry
; APPLICANT: Haber, Daniel A.
                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity :
"~+~hes 9; Conservat
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; SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 3
; LENGTH: 23
; TYPE: PRT
; ORGANISM: Mus musculus
US-09-938-864-3
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Best Local Similarity
Trahas 9; Conserve
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US-09-938-864-343
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 343, Application:
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                                                                                                                                                                                                                                                                             1 RMFPNAPYL 9
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Vedvick, Thomas S.
Sleath, Paul R.
Mossman, Sally
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Boydston, Jeremy
         Pelletier, Jerry
Haber, Daniel A.
Rose, Elise A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/09938864
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NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 343
LENGTH: 152
TYPE: PRT
                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
                                                                                                                                                                                                                                                                             APPLICANT: Evans, Lawrence
APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
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CURRENT FILING DATE: 2001-08-24
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                     100.0%; Score 51; DB 5; 100.0%; Pred. No. 0.069;
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Pred. No. 0.011;
Mismatches
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                                     DB 5; Length 152;
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Gaps
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APPLICANT:

Housman, David E. Bruening, Wendy Darveau, Andre

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                                                                                                                                                          ; TYPE: PRT; ORGANISM: Homo sapiens US-09-938-864-395
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PRIOR FILING DATE: 1998-03-09
PRIOR APPLICATION NUMBER: US 08/102,942
PRIOR FILING DATE: 1993-08-02
PRIOR FILING DATE: 1993-08-12
PRIOR APPLICATION NUMBER: US 07/614,161
PRIOR FILING DATE: 1990-11-13
PRIOR APPLICATION NUMBER: US 07/435,780
PRIOR FILING DATE: 1989-11-13
PRIOR APPLICATION NUMBER: US 07/435,780
PRIOR APPLICATION NUMBER: US 07/795,323
PRIOR APPLICATION NUMBER: US 07/795,323
PRIOR FILING DATE: 1991-11-20
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SEQ ID NO 5
                                                                                                                                                                                                                  SOFTWARE: FastSEQ for Windows Version 3.0 SEQ ID NO 395
LENGTH: 214
                                                                                        Query Match
Best Local Similarity
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Best Local Similarity
                                                                                                                                                                                                                                                                                           FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: (
CURRENT FILING DATE: 2001-08
                                                                                                                                                                                                                                                                                                                                         APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Gaiger, Alexander APPLICANT: McNeill, Patrici APPLICANT: Smithgall, Molly
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TYPE: PRT
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CURRENT FILING DATE: 2001-08-14
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 59
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                   1 RMFPNAPYL 9
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RMFPNAPYL 67
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Vedvick, Thomas S.
Sleath, Paul R.
Mossman, Sally
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                                                                      Conservative
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Pred. No. 0.096;
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Pred. No. 0.069;
                                                                    Mismatches
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189 RMFPNAPYL 197

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Qy
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; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-938-864-391
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Best Local Similarity
"~+~hes 9; Conserva
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SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 335
LENGTH: 256
                               Matches
                                Best Local Similarity Matches 9; Conserv
                                                              Query Match
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APPLICANT:
APPLICANT:
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                                                                                                                                                                                                                  APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
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APPLICANT:
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CURRENT FILING DATE: 2001-08-24
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   1 RMFPNAPYL 9
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Vedvick, Thomas S.
Sleath, Paul R.
Mossman, Sally
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Spies, A. Gregory
Boydston, Jeremy
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Spies, A. Gregory
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Sleath, Paul
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                                Conservative
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                                            100.0%;
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                                             Score 51;
Pred. No.
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Pred. No. 0.11;
                                Mismatches
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GENERAL INFORMATION:

Application US/09929315

APPLICANT: Call, Katherine M. APPLICANT: Glaser, Thomas M.

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CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 394
LENGTH: 362
TYPE: PRT
ORGANISM: Homo sapiens
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Best Local Similarity
Thehes 9; Conserve
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US-09-938-864-394
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SEQ ID NO 2
LENGTH: 345
                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 394,
                                                                                                                                                                  APPLICANT: Evans, Lawrence
APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
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PRIOR FILING DATE: 1990-11-13
PRIOR APPLICATION NUMBER: US 07/435,780
PRIOR FILING DATE: 1989-11-13
PRIOR APPLICATION NUMBER: US 07/795,323
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CURRENT FILING DATE: 2001-08-14
PRIOR APPLICATION NUMBER: US 09/037,179
PRIOR FILING DATE: 1998-03-09
PRIOR APPLICATION NUMBER: US 08/102,942
PRIOR FILING DATE: 1993-08-02
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APPLICANT: Bruening, Wendy
APPLICANT: Darveau, Andre
TITLE OF INVENTION: Localization and Characterization of the
TITLE OF INVENTION: Wilms' Tumor Gene
FILE REFERENCE: 0050.1312-013
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Vedvick, Thomas S
Sleath, Paul R.
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Haber, Daniel A.
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Query Match
Best Local Similarity
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US-09-938-864-346
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NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0,
SEQ ID NO 333
LENGTH: 410
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Matches 9; Conserv
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APPLICANT:
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APPLICANT: Spies, A. Gregory
APPLICANT: Spies, A. Gregory
APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILLE REFERENCE: 210121.455C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
                                                                  CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
                                                                                                 APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
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Sleath, Paul R.
Mossman, Sally
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Spies, A. Gregory
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                                                                                                                                                                                                                                  Thomas S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 51; 100.0%; Pred. No.
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0.16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB_5; Length 369;
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APPLICANT: Boydston, Jeremy
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 393
LENGTH: 420
TYPE: PRT
APPLICANT: Gaiger, Alexander
APPLICANT: McNeill, Patricia D.
APPLICANT: McNeill, Molly
APPLICANT: Moulton, Gus
APPLICANT: Woulton, Gus
APPLICANT: Vedvick, Thomas S.
APPLICANT: Vedvick, Thomas S.
APPLICANT: Sleath, Paul R.
APPLICANT: Sleath, Paul R.
APPLICANT: Evans, Lawrence
APPLICANT: Evans, Lawrence
APPLICANT: Boydston, Jeremy
APPLICANT: Spies, A. Gregory
APPLICANT: Spies, GompoSITIONS AND METHODS FOR WT1
TITLE OF INVENTION: SPECIFIC IMMUNOTHERAPY
FILLE REFERENCE: 210121.465C5
CURRENT APPLICATION NUMBER: US/09/938,864
CURRENT FILING DATE: 2001-08-24
NUMBER OF SEQ ID NOS: 413
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 405
LENGTH: 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.v.
watches 9; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-938-864-405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: Homo sapiens
US-09-938-864-393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-938-864-393
                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 405, Application US/09938864 GENERAL INFORMATION:
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Best Local Similarity 100.0%;
Matches 9; Conservative 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 393, Application US/09938864
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265 RMFPNAPYL 273
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287 RMFPNAPYL 295
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Vedvick, Thomas S.
Sleath, Paul R.
Mossman, Sally
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Spies, A. Gregory
Boydston, Jeremy
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100.0%; Pred. No. 0.19;
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Search completed: October 23, 2001, 13:22:51 Job time: 164 sec

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Result
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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Perfect score:
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Gapop 10.0 , Gapext 0.5
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51
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /SIDS8/gcgdata/geneseq/geneseqp/AA1980.DAT:*
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/SIDS8/gcgdata/geneseq/geneseqp/AA1982.DAT:*
/SIDS8/gcgdata/geneseq/geneseqp/AA1983.DAT:*
/SIDS8/gcgdata/geneseq/geneseqp/AA1984.DAT:*
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154
23
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     AAY94202
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                                                                                                                                                                                                                                                                       SUMMARIES
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Compugen Ltd
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11.838 Million cell updates/sec
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Human Wilms' tumou
Human Wil peptide
Mouse Wil peptide
Wilms' tumour poly
Wilms' tumour prot
Wilms' tumour gene
Wilms' tumour gene
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                                                                                                                                           WT1 derived immuno WT1 derived immuno
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| 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | ω ω | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 7, | ÿ | 14 | 13 | 12 |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------|----------|--------------------|--------------------|--------------------|----------|------------|----------|--------------------|--------------------|--------------------|----------|--------------------|--------------------|--------------------|--------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------------------|
| 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 40 | 41 | 41 | 46 | 47 | 51 | 51 | 51 | 51 | 51 | 51 |
| 70.6 | 70.6 | ٠ | • | • | • | • | • | 70.6 | • | • | • | • | • | • | 72.5 | • | • | • | | | • | 72.5 | 78.4 | 80.4 | 80.4 | 90.2 | • | • | 100.0 | 100.0 | • | 100.0 | 100.0 |
| 370 | 370 | 370 | 370 | 369 | 229 | 218 | 218 | 218 | 218 | 218 | 218 | 200 | 123 | 123 | 1403 | 1403 | 1403 | 1403 | 1403 | 1295 | 1295 | 1232 | 9 | 9 | 9 | 9 | 9 | 449 | 449 | 449 | 449 | 449 | 429 |
| 21 | 21 | 20 | 20 | 21 | 21 | 13 | 13 | 13 | 9 | 9 | 9 | 19 | 21 | 21 | 21 | 20 | 20 | 18 | 18 | 20 | 20 | 17 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 19 | 16 |
| AAY84305 | AAY84304 | AAY06624 | AAY06623 | AAG40619 | AAB58846 | AAR20033 | AAR20032 | AAR20031 | AAP82927 | AAP82926 | AAP82925 | AAY86132 | AAG01173 | AAG01172 | AAY88053 | AAY09539 | AAY14079 | AAW20033 | AAW20032 | AAY09540 | AAY14080 | AAR98217 | AAY98808 | AAY98752 | AAY98564 | AAY98809 | AAY98523 | AAY80197 | AAY80196 | AAY98805 | AAY98804 | AAW47176 | AAR85065 |
| A murine tyrosylpr | A human tyrosylpro | Mouse tyrosylprote | Human tyrosylprote | Arabidopsis thalia | Breast and ovarian | brain | | Rat liver glutathi | Glutathione S-tran | Glutathione S-tran | | eumoniae d | secreted | Human secreted pro | Human NAIP protein | Human apoptosis in | | Neuronal apoptosis | Neuronal apoptosis | Human apoptosis in | Gonadotropic hormo | 0 | related | derived | derived | related | erived i | Wilms' | Wiln | WT1 | Σ | ' tumour | Wilms' tumour WT1 |

ALIGNMENTS

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AAY94202
ID AAY9
RESULT
      Claim 1; Page 74; 93pp; English.
                            Novel peptides comprising WT-1 and GATA-1 epitopes, their fragments variants, useful as vaccines for cancer immunotherapy \cdot
                                                            WPI; 2000-376123/32.
                                                                                Stauss HJ, Gao L;
                                                                                                                                                                                                                                     WT126-3; peptide; epitope; Wilm's tumour breast cancer; melanoma; ovarian cancer;
                                                                                                                                                                                                                                                                    Human cytotoxic T lymphocyte-recognised WT1 peptide WT126-34.
                                                                                                     (IMCO-) IMPERIAL COLLEGE INNOVATIONS LTD
                                                                                                                            02-NOV-1998;
                                                                                                                                                 02-NOV-1999;
                                                                                                                                                                       11-MAY-2000.
                                                                                                                                                                                            WO200026249-A1
                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                          28-JUL-2000 (first entry)
                                                                                                                                                                                                                                                                                                                AAY94202;
                                                                                                                                                                                                                                                                                                                                   AAY94202 standard; peptide;
                                                                                                                            98GB-0023897.
                                                                                                                                                 99WO-GB03572
                                                                                                                                                                                                                                                                                                                                     9 AA
                                                                                                                                                                                                                                    gene; leukaemia;
immunotherapy.
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or

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RESULT
AAY98670
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The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WT1, (or variants of the immunogenic portion retaining the ability to react with WT1-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WT1 polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, minetics or polynucleotides can be included with a carrier/excipient in pharmaceutical compositions or with a non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a T cell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to enhance or induce an immune response specific for WT1 or a cell
                                                                                                                                                                                                                                               Claim 4; Page 171; 193pp; English.
                                                                                                                                                                                                                                                                               Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant diseases associated with WTl expression e.g. leukemia or cancer
                                                                                                                                                                                                                                                                                                                                                     WPI; 2000-293107/25
                                                                                                                                                                                                                                                                                                                                                                                    Gaiger A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30-SEP-1998;
25-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAY98670 standard; Peptide; 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present sequence is peptide epitope WT126-34, produced by WT1 expressing cells and found at residues 126-134 of the WT1 protein, which is recognised by cytotoxic T lymphocytes. WT1 is aberrantly expressed in leukaemias, breast cancer, melanoma and ovarian cancer. The peptide can be used as a vaccine to stimulate the elimination, by cytotoxic T lymphocytes, of cancer cells aberrantly expressing WT1. In addition, the nucleic acid encoding the peptide may also be used in the same manner. Alternatively, the peptide may be used in vitro to produce activated cytotoxic T lymphocytes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WTl; immunotherapy;
metastatic disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WT1 derived immunogenic peptide SEQ ID NO:185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                    (CORI-) CORIXA (GAIG/) GAIGER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200018795-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
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                                                                                                                                                                                                                                                                                                                                                                                      Cheever M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9 AA;
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99US-0276484.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99WO-US22819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mouse; human; Wilm's tumour; immune response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           immunogenic; malignant disease; cancer; leukaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entry)
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Pred. No.
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3.4e+05;
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AAY9
AC AAY9

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Best Local Similarity
Thes 9; Conserv
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The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WT1, (or variants of the immunogenic portion retaining the ability to react with WT1-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WT1 polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, mimetics or polynucleotides can be included with a carrier/exclipient in pharmaceutical compositions or with a conspecific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a T cell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to enhance or induce an immune response specific for WT1 or a cell expressing WT1, useful to inhibit the development of malignant diseases associated with WT1 expression, e.g. leukemia (especially acute/chronic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    expressing WT1, useful to inhibit the development of malignant diseases associated with WT1 expression, e.g. leukemia (especially acute/chronic myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma). AAY98501 to AAY98811 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 4; Page 186; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel polypeptides comprising an immunogenic portion of a native WTl polypeptide, useful for inhibiting the development of malignant diseases associated with WTl expression e.g. leukemia or cancer
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metastatic disease;
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25-MAR-1999;
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(GAIG/) GAIGER
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99US-0276484.
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mouse; human; Wilm's tumour; immune response;
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ
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3.4e+05;
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Best Local
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                                                                                                                     The present invention describes a cancer antigen containing the active component of Wilms' tumour suppressor gene WTl product, or partial peptides, for cancer vaccines in treating leukaemia and solid tumours. The cancer antigens are useful for cancer vaccines in treating leukaemia, bone-marrow abnormal formation syndrome, malignant lymphoma, multiple myeloma, stomach cancer, cancer of the large intestine, lung cancer, breast cancer, blastoma, liver cancer, skin cancer, bladder cancer, prostate cancer, uterus cancer, cervical cancer, or ovary cancer. The present sequence represents a peptide from the human Wilms' tumour suppressor gene WTl product.
                                                                                                                                                                                                                                                                                                         Cancer antigens based on Wilm's tumor suppressor gene WT1 product or peptide derivatives, for cancer vaccines in treating leukemia and solid tumors e.g. stomach cancer, skin cancer, lung cancer and breast cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma). AAY98501 to AAY98811 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the
                                                                                               Sequence
                                                                                                                                                                                                                                                                                Claim 5; Page 18; 48pp; Japanese.
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                                                                                                                                                                                                                                                                                                                                                                                                                         (SUGI/) SUGIYAMA H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      31-JUL-1998;
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WI1. (or variants of the immunogenic portion retaining the ability to

creact with WI1-specific antisera and/or T-cell lines or clones) and

comprising 16 consecutive amino acids (aa) or less of a native WI1

polypeptide. The polypeptides are useful therapeutically and to

manufacture medicaments for enhancing/inducing an immune response in

patients. The polypeptides, mimetics or polynucleotides can be included

with a carrier/excipient in pharmaceutical compositions or with a

non-specific immune response enhancer (e.g. an adjuvant or enhancer

preferentially enhancing a T cell response) in vaccines. Pharmaceutical

compositions and vaccines can be administered to human patients to

expressing WI1, useful to inhibit the development of malignant diseases

associated with WI1 expression, e.g. leukemia (especially acute/chronic

mysloid leukemia or acute lymphocytic leukemia or cancer (especially

through development or a melanoma)
              Query Match
Best Local :
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                                                                                                                               breast, lung, thyroid or gastrointestinal cancer, or a melanoma). AAY98501 to AAY98811 represent polypeptide sequences, and AAA13848 to AAA13862 represent PCR primers, used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                           The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product pol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 4; Page 46; 193pp; English.
                                                                                Sequence
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25-MAR-1999;
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                                                                                                                  present invention.
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(GAIG/) GAIGER A.
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99US-0276484.
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mouse; human; Wilm's tumour; immune response;
              100.0%;
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              Score 51;
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                                                                                                                                                                                                                               non-specific immune response enhancer (e.g. an adjuvant or enhancer preferentially enhancing a T cell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to enhance or induce an immune response specific for WT1 or a cell expressing WT1, useful to inhibit the development of malignant diseases associated with WT1 expression, e.g. leukemia (especially acute/chronic myeloid leukemia or acute lymphocytic leukemia) or cancer (especially breast, lung, thyroid or gastrointestinal cancer, or a melanoma). AAY38601 to AAY38811 represent polypeptide sequences, and AAA13848 to
                                                                                                                                                                                                                                                                                                                                                                                                The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, WT1, (or variants of the immunogenic portion retaining the ability to react with WT1-specific antisera and/or T-cell lines or clones) and comprising 16 consecutive amino acids (aa) or less of a native WT1 polypeptide. The polypeptides are useful therapeutically and to manufacture medicaments for enhancing/inducing an immune response in patients. The polypeptides, minetics or polymentides can be included with a carrier variation, and the polypeptides of the beautiful formula to the polypeptides.
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                                                                                                                                                                      Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus.
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metastatic disease;
                                                                                                                                                                                                     present invention.
                                                                                                                                                                                                                                                                                                                                                                                    with a carrier/excipient in pharmaceutical compositions or with a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 3; Page 46; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-SEP-1998;
25-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200018795-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vaccine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mouse WT1 peptide SEQ ID NO:3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY98503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY98503 standard; Peptide; 23 AA
                                                                                                                                                                                                                    AAA13862 represent PCR primers,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (CORI-) CORIXA
(GAIG/) GAIGER
17
                                                                                   Local Similarity hes 9; Conser
                 10 rmfpnapyl 18
                                                  1 RMFPNAPYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cheever M;
                                                                                                                                                                    23
                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                      A,
                                                  9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98US-0164223.
99US-0276484.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99WO-US22819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mouse;
                                                                                                100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      immunogenic; malignant disease; cancer; leukaemia;
mouse; human; Wilm's tumour; immune response;
                                                                                   0;
                                                                                                  Score 51;
Pred. No.
                                                                                                                                                                                                                    used in the exemplification of the
                                                                                    Mismatches
                                                                                                0.0027;
                                                                                                                     DB 21;
                                                                                   0
                                                                                                              Length 23;
                                                                                   Indels
                                                                                 0;
                                                                                 Gaps
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RESULT

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Chimeric Homo

sapiens;

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RESULT
AAR85066
OS X X X DE X DE X X
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                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-AUG-1993;
13-NOV-1989;
13-NOV-1990;
                                                                                                                                                                                                                                                                                                                                                  This sequence represents the proline and glutamine rich region of a new Wilms' tumour (WT33) polypeptide. The Wilms' tumour gene (WT1) is associated with 11p3 locus on the human chromosome. This proline and glutamine rich region indicates that the Wilms' tumour polypeptide has a role in transcription regulation. The polypeptide or immunogenic fragments of the polypeptide can be used to treat cancerous or precancerous conditions (especially Wilms' tumour), or to raise antibodies for diagnostic use. The product allow detection of risk of development of Wilms' tumour, e.g. in diseases such as WAGR and
                       Wilms' tumour; WT1-6F; monoclonal antibody; leukaemia.
                                                Wilms' tumour
                                                                                                                           AAR85066 standard;
                                                                          02-FEB-1996
                                                                                                  AAR85066;
                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bruening W,
Haber DA,
                                                                                                                                                                                                                                                                                                                                        Denys-Drash syndrome, to be assessed prior to current methods of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and antibody
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1998-192828/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US5726288-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Denys-drash syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wilms' tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wilms' tumour polypeptide (WT33) proline and glutamine rich region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW47175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAW47175 standard; Protein; 154 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New Wilms' tumour polypeptide -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (MASI ) MASSACHUSETTS INST TECHNOLOGY
                                                                                                                                                                                      ||||||||||
40 rmfpnapyl 48
                                                                                                                                                                                                               1 RMFPNAPYL
                                                                                                                                                    æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2; Fig 4; 42pp; English.
                                                                                                                                                                                                                                         9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Housman DE,
                                                                                                                                                                                                                                                                                                     154 AA;
                                                                                                                                                                                                                                       Conservative
                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Buckler AJ,
                                              antigen WT1-6F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               93US-0102942.
89US-0435780.
90US-0614161.
                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WT33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 93US-0102942
                                                                                                                           Protein; 210 AA
                                                                                                                                                                                                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cancer treatment; antibody production; WAGR;
; WT1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   , Call KM, Ito CY, Pe
                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                    Score 51; DB 19; Pred. No. 0.021;
                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    useful for,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   M, Darveau A,
Pelletier J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  e.g. cancer treatment
                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rose EA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Glaser TM;
                                                                                                                                                                                                                                                                Length 154;
                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                         0
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Best Local Similarity
Thehes 9; Conserv
                                                                                                                                                                                                                                                                                                                 AAW22883
                                                                                                                                                                                                                              В
                                                                                                                                                                                                  RESULT
                                                                                                                                                                                                                                                                                                                                          Wilms' tumor antigen WT1-6F (AAR85066) is based on amino acids 1-181 of the native sequence, plus additional N- and C-terminal sequences, and is encoded by synthetic DNA (AAR902462) optimized expression in E coli. WT1-6F is used to raise monoclonal
                                                                                                                                                                                                                                                                                                                                                                                                           Monoclonal antibodies specific for Wilms' tumour protein antigen - useful for detecting, monitoring and diagnosing malignancies characterised by expression of WTl protein, e.g. leukaemia
                                                                                                                          Wilms'
Protein
                                                       Homo sapiens.
Synthetic.
                                                                                                     Wilms' tumour; WTl; antigen; WTl-6F; monoclonal; antibody;
                                                                                                                                           24-SEP-1997
                                                                                                                                                            AAW22883;
                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chimeric
                            Peptide
                                                                                            diagnosis;
                                                                                                                                                                               AAW22883 standard;
                                                                                                                                                                                                                                                                                                                                  antibodies specific
                                                                                                                                                                                                                                                                                                                                                                                          Example 1; Page 37-38; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Herlyn M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (WIST-) WISTAR INST ANATOMY & BIOLOGY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-APR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-APR-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09-NOV-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO9529995-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peptide
                                                                                     leukemia.
                                                                                                                                                                                                                              137
                                                                                                                                                                                                                                                1 RMFPNAPYL 9
                                                                                                                                                                                                  9
                                                                                                                                                                                                                              rmfpnapyl 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                           1995-393072/50.
                                                                                                                                                                                                                                        tumour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Morris J,
                                                                                                                                                                                                                                                                                                                210
                                                                                             mesothelioma;
                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                           (first entry)
                                                                                                                       protein antigen
                                                                                                                                                                                                                                                                                                                AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  94US-0234783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     95WO-US05523
12..192
                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /label= Histidine_fusion_peptide
/note= "hexa-histidine peptide used to facilitate
fusion protein purification"
                 /note= "histidine fusion peptide to facilitate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label= WT1
193..219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12..192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                               Protein;
                                                                                                                                                                                                                                                                                                                                    for WT1.
                                                                                                                                                                                                                                                                           100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rauscher FJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "vector-derived amino acids"
        purification"
                                                                                                                                                                                                                                                                           .0%;
                                                                                            prostate;
                                                                                                                                                                               210
                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                           Score 51; I
                                                                                                                         WT1-6F.
                                                                                                                                                                               Ą
                                                                                                                                                                                                                                                                   Mismatches
                                                                                            ovarian;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rodeck U;
                                                                                                                                                                                                                                                                           DB 16;
0.03;
                                                                                            cancer;
                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                    Length 210;
                                                                                                                                                                                                                                                                   Indels
                                                                                            leukaemia;
                                                                                                                                                                                                                                                                  0,
                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                     for
                                                                                                                                                                                                                                                                                                                                                                                                                                WIL
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                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                            12240
                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence is the Wilms' tumour protein antigen WT1-6F, which comprises amino acids 1-181 of the Wilms' tumour 1 antigen (WT1) protein. WT1-6F can be used to raise monoclonal antiped (WT1) protein. WT1-6F can be used to raise monoclonal antibodies (MAb), e.g. H2, H7 and/or H17, which are secreted by the hybridoma cell lines ATCC 11598, 11599 and 11600. The MAb can be used to diagnose mesothelioma, prostate cancer, ovarian cancer or leukaemia by binding an antigen in a whole blood, serum, plasma synovial fluid or tissue sample, or monitor therapy in leukaemia patients by binding an antigen in a whole blood, plasma, serum, urine or bone marrow sample, indicating the presence of active
                                                                                                                                                    Wilm's tumour;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Diagnosis of mesothelioma and monitoring of leukaemia therapy using monoclonal antibodies against Wilms' tumour 1 antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1997-297358/27.
N-PSDB; AAT75529.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-JUN-1995;
28-APR-1994;
 Domain
                       Domain
                                             Domain
                                                                    Domain
                                                                                            Domain
                                                                                                                               Homo sapiens
                                                                                                                                                                         Wilm's tumour
                                                                                                                                                                                                   15-AUG-1991
                                                                                                                                                                                                                       AAR12240;
                                                                                                                                                                                                                                                AAR12240 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 1; Columns 17-20; 21pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28-APR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Herlyn M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (WIST-) WISTAR INST ANATOMY & BIOLOGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-MAY-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US5633142-A.
                                                                                                                                                                                                                                                                                                          137
                                                                                                                                                                                                                                                                                                                                                                                                                                       leukaemia cells.
                                                                                                                                                                                                                                                                       10
                                                                                                                                                                                                                                                                                                                    1 RMFPNAPYL 9
                                                                                                                                                                                                                                                                                                       rmfpnapyl 145
                                                                                                                                                                                                                                                                                                                                                      Similarity
9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Morris J,
                                                                                                                                                                                                                                                                                                                                                                                                                 210 AA;
                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                (first entry)
                                                                                                                                                                          gene prod
                                                                                                                                                    monoclonal antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95US-0456907
94US-0234783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94US-0234783
/label= zinc finger domain 247..276 /label= zinc finger domain 277..304
                                                                   /label= proline/glutamine rich region 216..226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "amino acids 1-181 of WT1 protein"
193..210
                                                                                                     Location/Qualifiers
                                                         /label= zinc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "vector sequences added during cloning"
                                                                                                                                                                                                                                                                                                                                                                  100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rauscher
                                                                                                                                                                                                                                                345 AA.
                                                                                                                                                                                                                                                                                                                                                      0;
                                                         finger
                                                                                                                                                                                                                                                                                                                                                                  Score 51;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ΕJ,
                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rodeck
                                                         domain
                                                                                                                                                                                                                                                                                                                                                                 0.03;
                                                                                                                                                                                                                                                                                                                                                                              DВ
                                                                                                                                                                                                                                                                                                                                                                             18;
                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    serum, plasma,
                                                                                                                                                                                                                                                                                                                                                                             210;
                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                      Gaps
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RESULT
AAW4717
           ID XXX ACC CONTROL OF ACC
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                              Matches
                           02-AUG-1993;
13-NOV-1989;
13-NOV-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        maps
(MASI ) MASSACHUSETTS INST TECHNOLOGY
                                                                                                                US5726288-A.
                                                                                                                                               Region
                                                                                                                                                          Key
                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                  Denys-drash
                                                                                                                                                                                                             Wilms' tumour;
                                                                                                                                                                                                                                 Wilms' tumour
                                                                                                                                                                                                                                                       01-JUN-1998
                                                                                                                                                                                                                                                                           AAW47173;
                                                                                                                                                                                                                                                                                              AAW47173 standard; Protein; 345 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and hence is thought to be involved in transcription regulation. Using this WT protein and the DNA, probes and antibodies can be developed for diagnosing WT. Lesions similar to WT may also be detected.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Call KM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nucleotide sequence of human chromosome 11 band 13 Wilm's tumour locus - used to diagnose, quantify and treat Wilm's tumours
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1991-178117/24.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Haber
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13-NOV-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13-NOV-1990;
                                                                       02-AUG-1993;
                                                                                            10-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (MASI ) MASSACHUSETTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30-MAY-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO9107509-A
                                                                                                                                                                                                                                                                                                                     11
                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                    42 rmfpnapyl 50
                                                                                                                                                                                                                                                                                                                                                              RMFPNAPYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            polypeptide is encoded by the Wilm's tumour (WT) gene which to the 11p13 locus of human chromosome 11. It contains 4 finger binding domains and a proline/glutamine rich region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAQ12020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Glaser TM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                345 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rose EA,
                                                                                                                                                                                                   syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       fig 3;
                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                polypeptide (WT33).
                           93US-0102942.
89US-0435780.
90US-0614161.
                                                                                                                                                                                                   WT33; cancer treatment; ndrome; WT1.
                                                                                                                                                                                                                                                                                                                                                                        9
                                                                      9308-0102942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              89US-0435780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  90WO-US06629
                                                                                                                                             Location/Qualifiers
3...156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= zinc finger domain 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    67pp;
                                                                                                                                                                                                                                                                                                                                                                                                       100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Housman DE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ito CY,
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                                                                                                                                    "proline and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       English.
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Pred. No.
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                                                                                                                                   glutamine rich region"
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                                                                                                                                                                                                           antibody production; WAGR;
                                                                                                                                                                                                                                                                                                                                                                                                       DB 12
0.051;
                                                                                                                                                                                                                                                                                                                                                                                                                 12;
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                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                 Length 345;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (WT) gene which
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RESULT 1
AAR85065
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This is a new Wilms' tumour (WT33) polypeptide. The Wilms' tumour gene (WT1) is associated with 11p3 locus on the human chromosome. This polypeptide has a region rich in proline and glutamine (AAWA7175) indicating that it has a role in transcription regulation. The polypeptide or immunogenic fragments of the polypeptide can be used to treat cancerous or precancerous conditions (especially Wilms' tumour), or to raise antibodies for diagnostic use. The product allow detection of risk of development of Wilms' tumour, e.g. in diseases such as WAGR
The human Wilm's tumour antigen WT1 (sequence given in AAR85065) was used as the basis for the design of a synthetic WT1 sequence (see AAR85066) used to raise monoclonal antibodies specific for the antig
                                                                      Monoclonal antibodies specific for Wilms' tumour protein antigen - useful for detecting, monitoring and diagnosing malignancies characterised by expression of WTl protein, e.g. leukaemia
                                                Claim 1;
                                                                                                                        N-PSDB; AAR85065
                                                                                                                                      WPI; 1995-393072/50
                                                                                                                                                                                                                                                             09-NOV-1995.
                                                                                                                                                                                                                                                                                     WO9529995-A1
                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                     Wilms' tumour; WT1; monoclonal antibody; leukaemia.
                                                                                                                                                                                                                                                                                                                                                              Wilms' tumour
                                                                                                                                                                                                                                                                                                                                                                                       02-FEB-1996
                                                                                                                                                                                                                                                                                                                                                                                                               AAR85065;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
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N-PSDB; AAV17060.
                                                                                                                                                             Herlyn M,
                                                                                                                                                                                                              28-APR-1994;
                                                                                                                                                                                                                                     25-APR-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     detection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and Denys-Drash syndrome, to be assessed prior to current methods of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bruening W,
Haber DA,
                                                                                                                                                                                     (WIST-)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               similarity
9; Conserv
                                                                                                                                                                                     WISTAR INST ANATOMY & BIOLOGY.
                                               Page 42-43;
                                                                                                                                                             Morris J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           345 AA;
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                                                                                                                                                                                                                                                                                                                                                              WT1 antigen
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to CY, Pelletier J,
                                                English
                                                                                                                                                                                                                                                                                                                                                                                                                                       429
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Pred. No.
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0.051;
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Rose EA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 345;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cancer treatment
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  antigen
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AAY98804
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                                                                                    Matches
                                                                                             Query Match
Best Local
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13-NOV-1989;
13-NOV-1990;
                                                                                                                                                                            This is a Wilms' tumour (WT1) polypeptide. The Wilms' tumour gene (WT1) is associated with 11p3 locus on the human chromosome. The polypeptide or immunogenic fragments of the polypeptide can be used to treat cancerous or precancerous conditions (especially Wilms' tumour), of to raise antibodies for diagnostic use. The product allow detection of trisk of development of Wilms' tumour, e.g. in diseases such as WAGR and
                                                                                                                                                                                                                                                                                                          WPI; 1998-192828/17
                                                                                                                                                                                                                                                                                                                                         Bruening
                                                                                                                                                                                                                                                                                                                                                                                                                                                10-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wilms' tumour; WT33; cancer treatment; antibody production; WAGR;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-JUN-1998
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                                                                                                                                      Sequence
                                                                                                                                                                                                                                                     Disclosure; Columns 39-42; 42pp; English.
                                                                                                                                                                                                                                                                         New Wilms' tumour polypeptide - useful for, and antibody production
                                                                                                                                                                                                                                                                                                                              Haber DA,
                                                                                                                                                                                                                                                                                                                                                                                                                           02-AUG-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Denys-drash syndrome; WT1.
                                                                                                                                                                   Denys-Drash syndrome;
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                                        126 rmfpnapyl 134
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                                                              1 RMFPNAPYL 9
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                                                                                  9;
                                                                                             Similarity
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                                                                                                                                                                                                                                                                                                                             Housman DE,
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                                                                                                                                      449 AA;
                                                                                   Conservative
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                                                                                                                                                                                                                                                                                                                                        Buckler AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                 93US-0102942.
89US-0435780.
90US-0614161.
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Pred. No. 0.064;
                                                                                            Score 51; DB 19
Pred. No. 0.067;
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                                                                                    Mismatches
                                                                                                       DB 19;
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                                                                                                                                                                                                                                                                                                                              Rose
                                                                                                                                                                                                                                                                                                                             Glaser TM;
Rose EA;
                                                                                                                                                                                                                                                                                     cancer treatment
                                                                                                       Length 449;
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                                                                                  Gaps
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AAY98805
ID AAYS
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                              RESULT
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The present invention describes polypeptides (I) comprising an immunogenic portion of a native Wilm's Tumour gene product polypeptide, CC WT1, (or variants of the immunogenic portion retaining the ability to CC react with WT1-specific antisera and/or T-cell lines or clones) and CC comprising 16 consecutive amino acids (aa) or less of a native WT1 CC polypeptide. The polypeptides are useful therapeutically and to CC manufacture medicaments for enhancing/inducing an immune response in CC patients. The polypeptides, mimetics or polynucleotides can be included CC with a carrier/excipient in pharmaceutical compositions or with a conspecific immune response enhancer (e.g. an adjuvant or enhancer CC compositions and vaccines enhancer in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to CC compositions and vaccines can be administered to human patients to CC compositions and vaccines can be administered to human patients to CC enhance or induce an immune response specific for WT1 or a cell CC expressing WT1, useful to inhibit the development of malignant diseases associated with WT1 expression, e.g. leukemia (especially acute/chronic CC myeloid leukemia or acute lymphocytic leukemia) or cancer (especially CC aavy88501 to aavy8811 represent polypeptide sequences, and aAal3848 to Cresent invention.
              Query Match
Best Local
Matches
                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 190-191; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel polypeptides comprising an immunogenic portion of a native polypeptide, useful for inhibiting the development of malignant diseases associated with WTl expression e.g. leukemia or cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaiger A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-SEP-1998;
25-мак-1999;
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metastatic disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY98804 standard; Protein; 449
                                                                                                                     present invention.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            vaccine.
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 Similarity 9; Conser
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 Conservative
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99US-0276484.
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mouse; human; Wilm's tumour; immune response;
              100.0%;
 0
               Score 51; DB 21
Pred. No. 0.067;
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 Mismatches
                                 DB 21;
 0;
                               Length 449;
 Indels
 0;
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AAY98805 standard; Protein;

449

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126 rmfpnapyl

1 RMFPNAPYL 9

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Search completed: October 23, 2001, 13:21:01 Job time: 54 sec
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                                                                                                                                                                                                                                                                                                                                                                                                           The present invention describes polypeptides (I) comprising an CC immunogenic portion of a native Wilm's Tumour gene product polypeptide, CC WT1, (or variants of the immunogenic portion retaining the ability to CC react with WT1-specific antisera and/or T-cell lines or clones) and CC comprising 16 consecutive amino acids (aa) or less of a native WT1 CC polypeptide. The polypeptides are useful therapeutically and to CC manufacture medicaments for enhancing/inducing an immune response in CC polypeptide. The polypeptides, mimetics or polynucleotides can be included CC with a carrier/excipient in pharmaceutical compositions or with a CC non-specific immune response enhancer (e.g. an adjuvant or enhancer CC preferentially enhancing a T cell response) in vaccines. Pharmaceutical compositions and vaccines can be administered to human patients to CC enhance or induce an immune response specific for WT1 or a cell cassociated with WT1 expression, e.g. leukemia (especially acute/chronic myeloid leukemia or acute lymphocytic leukemia) or cancer (especially CC compositions and vaccines can be administered to human patients associated with WT1 expression, e.g. leukemia (especially acute/chronic CC myeloid leukemia or acute lymphocytic leukemia) or cancer (especially CC compositions and vaccines cancer (especially acute/chronic compositions and vaccines cancer (especially concerned to human patients to cancer (especially concerned to human patients to cassociated with WT1 expression, e.g. leukemia) or cancer (especially concerned to human patients to cancer (especially acute/chronic concerned to human patients to concerned to human patients 
                                                                                                                                                                                                                                   Query Match 100.0%; Score 51; DB 21; Length 449; Best Local Similarity 100.0%; Pred. No. 0.067; Matches 9; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Page 191-192; 193pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-SEP-1998;
25-MAR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2000-293107/25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-SEP-1999;
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                                                                                                                                  1 RMFPNAPYL 9
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99US-0276484.
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Minimum
Maximum
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Perfect score:
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seq length:
                                                                                                                                                                                                                                                                                     length: 2000000000
                                                                                                                                                       SPTREMBL_16:*
1: sp_archea:*
2: sp_bacteria
3: sp_fungi:*
                                                                                                                                                                                                                                                           Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                   BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                              Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-625-963-1
51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   October 23,
                                                                                                                                                                                                                                                                                                                                                           425026 seqs, 132305027 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GenCore version 4.5
Copyright (c) 1993 - 2000 Comp
                                                                                                                                                                                                                                                                                                                                                                                                                                RMFPNAPYL 9
sp_rodent:*
sp_unclassified:*
sp_vertebrate:*
sp_virus:*
                                                                    sp_phage:*
                                                                                                                                                                                   sp_archea:*
                                                                                      sp_organelle:*
                                                                                                  sp_mhc:*
                                                                                                                sp_mammal:*
                                                                                                                              sp_invertebrate:*
                                                                                                                                                                       sp_bacteria:*
                                                      sp_plant:*
                                                                                                                                              _human:*
                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2001, 13:21:07 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Search time 47.11 Seconds (without alignments)
25.276 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                 425026
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | . 60 | 7 | 6 | · UT | 4 | w | 2 | ₽ | Result No. |
|--------|--------|--------|--------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-----------------------|
| 36 | 36 | 36 | 37 | 38 | 38 | 38 | 38 | 39 | 39 | 39 | 40 | 40 | 40 | 40 | 43 | 47 | 51 | (51) | Score |
| 70.6 | 70.6 | 70.6 | 72.5 | 74.5 | 74.5 | 74.5 | 74.5 | 76.5 | 76.5 | 76.5 | 78.4 | 78.4 | 78.4 | 78.4 | 84.3 | 92.2 | 100.0 | 100.0 | Query Match |
| 82 | 37 | 32 | 444 | 2175 | 662 | 581 | 205 | 426 | 392 | 203 | 419 | 417 | 414 | 392 | 409 | 390 | 446 | 407 | Query Match Length |
| 4 | 11 | ㅁ | 10 | ഗ | σ | 10 | N | 13 | 13 | N | 13 | 13 | 13 | 13 | 13 | 13 | 4 | 13 | DB |
| Q9UE37 | Q9QVM3 | OMAD60 | Q9LS41 | Q9W198 | Q9N6S5 | Q9FZ97 | Q914D6 | Q9W611 | Q9IBF0 | 083076 | Q9PUT7 | Q918A0 | Q918A1 | Q91030 | Q91657 | 042223 | Q15881 | P79958 | ID |
| homo | mus | | Q9ls41 arabidopsis | Q9w198 drosophila | Q9n6s5 leishmania | Q9fz97 arabidopsis | Q914d6 pseudomonas | Q9w611 cynops pyrr | Q9ibf0 anguilla ja | 083076 treponema p | Q9put7 brachydanio | Q9i8a0 gallus gall | Q9i8al gallus gall | Q91030 gallus gall | Q91657 xenopus lae | O42223 trachemys s | Q15881 homo sapien | P79958 xenopus lae | Description |

οy

1 RMFPNAPYL 9

Query Match Best Local S Matches

Similarity 9; Conserv

Conservative

100.0%; S 100.0%; P tive 0;

Score 51; DB 13 Pred. No. 0.084; Mismatches

13; 0;

Length 407; Indels

0;

Gaps

0,

| 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 |
|--------------------|--------------------|--------------------|-------------------|--------|--------------------|--------------------|--------------------|--------------------|---------|---------|--------|--------------------|--------------------|--------|----------------------|--------------------|-------------------|--------------------|--------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|
| 34 | 34 | 34 | 34 | 35 | <u>კ</u> | ယ | 35 | ω G | 3 5 | 3 5 | 35 | 35 | 35 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 |
| 66.7 | 66.7 | 66.7 | 66.7 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 68.6 | 70.6 | 70.6 | 70.6 | 70.6 | 70.6 | 70.6 | 70.6 | 70.6 | 70.6 | 70.6 | | 70.6 |
| 230 | 180 | 180 | 124 | 1281 | 1072 | 853 | 511 | 345 | 296 | 194 | 150 | 149 | 149 | 1249 | 434 | 432 | 348 | 225 | 225 | 218 | 218 | 218 | 218 | 195 | 188 |
| Ŋ | 10 | N | ഗ | 14 | տ | 13 | σ | N | N | N | υı | ഗ | σ | 11 | 10 | 10 | œ | 11 | 4 | 11 | σ | 6 | 6 | 4 | σ |
| Q9L995 | Q9SVQ5 | 067664 | Q9NGQ5 | Q85425 | Q9N5Y6 | 093245 | Q9GPS2 | Q9KVC3 | Q9RKD6 | Q9PGH2 | 076504 | 076503 | 076502 | Q9Z2Q1 | Q9SX80 | Q9SX79 | Q33154 | Q9Z1B2 | 060550 | 035660 | Q9N0V4 | Q9TSM4 | Q9TSM5 | Q05465 | Q9MZB4 |
| Q91995 vibrio chol | Q9svq5 arabidopsis | O67664 aquifex aeo | Q9ngq5 diabrotica | | Q9n5y6 caenorhabdi | 093245 oncorhynchu | Q9gps2 dictyosteli | 09kvc3 vibrio chol | strepto | xylella | | 076503 haliotis ru | 076502 homarus ame | _ | Q9sx80 arabidopsis . | Q9sx79 arabidopsis | Q33154 suksdorfia | Q9z1b2 rattus norv | O60550 homo sapien | O35660 mus musculu | Q9n0v4 bos taurus | Q9tsm4 macaca fasc | Q9tsm5 macaca fasc | Q05465 homo sapien | Q9mzb4 capra hircu |

ALIGNMENTS

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P79958
P79958;
01-MAY-1997
01-MAY-1997
01-MAR-2001
PRINTS; PRO0048; ZINCFINGER.

PROSITE; PS00028; ZINC_EINGER_C2H2; 4.

SMART; SM00355; ZENE_C2H2; 1.

DNA-binding; Metal-binding; Nuclear protein; Zinc-finger.

SEQUENCE 407 AA; 45983 MW; E2554C658005870C CRC64;
                                                                                                                                                                                                                                                                        -!- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE NUCLEAR HORMONE RECEPTORS FAMILY.
EMBL; D82051; BAA11522.1; -.
HSSP; P08046; laxy.
InterPro; IPR000822; -.
InterPro; IPR000976; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-97074667; PubMed-8917094;
Semba K., Saito-Ueno R., Takayama G., Kondo M.;
Semba K., Saito-Ueno R., Takayama G., Kondo 
                                                                                                                                                                                                 Pfam; PF00096; zf-C2H2; 4. Pfam; PF02165; WT1; 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
Xenopodinae; Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WT1 PROTEIN. WT1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
TISSUE=TESTIS;
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Best Local Similarity
                                                                                                                                                                                                                                                                                     O42223;
O42223;
O1-JAN-1998
O1-JAN-1998
O1-MAR-2001
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Q15881;
Q1-NOV-1996
Q1-NOV-1996
Q1-MAR-2001
                                                                                                                                                                                                                                                            01-JAN-1998 (TrEMBLrel.
01-JAN-1998 (TrEMBLrel.
01-MAR-2001 (TrEMBLrel.
WILMS TUMOR 1 PROTEIN.
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EMBL;
EMBL;
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Gessler M., Konig A., Bruns G.A.;
"The genomic organization and expression of the WT1 gene.";
Genomics 12:807-813(1992)
-I- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY)
-I- SIMILARITY; BELONGS TO THE NUCLEAR HORMONE RECEPTORS FAMILY.
Spoctla L.D., Hall S.E.;
Submitted (AUG-1997) to the EMBL/GenBank/DDBJ databases
-I- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).
                                                                                                                                   Eukaryota; Metazoa; Cho:
Testudines; Cryptodira;
NCBI_TaxID=34903;
                                                                                                                                                                                     Trachemys scripta (Red-eared slider turtle) (Pseudemys scripta). Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS; PRO0048; ZINCFINGER.
PRINTS; PRO0048; ZINCFINGER.
PROSITE; PS00028; ZINC_FINGER_C2H2; 4.
SMART; SM00355; ZnF_C2H2; 1.
DNA-binding; Metal-binding; Nuclear protein; Zinc-finger.
SEQUENCE 446 AA; 48842 MW; 8CE7FC047F41CF11 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR000822; ...
InterPro; IPR000976; ...
Pfam; PF00096; zf-C2H2; 4...
Pfam; PF02165; WT1; 1...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WILMS TUMOR PROTEIN
                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              126
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                L; X61631; CAA43819.1; JOINED.
L; X61632; CAA43819.1; JOINED.
L; X61633; CAA43819.1; JOINED.
L; X61634; CAA43819.1; JOINED.
L; X61635; CAA43819.1; JOINED.
L; X61636; CAA43819.1; JOINED.
L; X61637; CAA43819.1; JOINED.
L; X61638; CAA43819.1; JOINED.
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(TrEMBLrel.
(TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%;
                                                                                                                                                                 Testudinoidea;
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16,
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Last sequence up
Last annotation
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 51; DB 4;
Pred. No. 0.092;
                                                                                                                                                                                                                                                                                                                                                                                       PRT;
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                                                                                                                                                                 Emydidae;
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                                                                                                                                                                 Trachemys
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Best Local S
Matches 8
                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                   -i- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).
-i- SIMILARITY: BELONGS TO THE NUCLEAR HORMONE RECEPTORS RMBL; VA4201; AAB53152.; -.
RMBL; X85733; CAA59738.1; -.
RMBL; X85773; CAA59738.1; -.
RINTERPOOPON CONTROL CONTROL
                                                                                                                             Matches
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Q91657;
Q91657;
O1-NOV-1996 (
O1-NOV-1996 (
O1-MAR-2001 (
WILMS' TUMOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-96068905; PubMed-7478606;
Kent J., Coriat A.M., Sharpe P.T.,
"The evolution of WT1 sequence and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE-MESONEPHROS; FMEDLINE-96068905; F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
Carroll T.J., Vize P.
Submitted (JAN-1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Xenopus laevis (African clawed frog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PRO0048; ZINCFINGER.
PROSITE; PS00028; ZINC_FINGER_C2H2; 3.
SMART; SM00355; ZINC_E1R; 1.
DNA-binding; Metal-binding; Nuclear protein; Zin SEQUENCE 390 AA; 43620 MW; 1C9987435BE927C2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR000822; -.
InterPro; IPR000976; -.
Pfam; PF00096; zf-C2H2; 4.
Pfam; PF02165; WT1; 2.
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106
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RMFSNAPYL
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8; Conser
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01, Last sequence update)
16, Last annotation update)
(WT1).
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0; Mismatches
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                                                                                                                                                            Score 43;
Pred. No.
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pattern
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Best Local S
Matches 7
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"The evolution of WT1 s vertebrates.";
                                                                                                                                                                                                                                                                 Q918A1;
                    "Chicken counterpart of Wilms' tumor suppressor gene 1.";
Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AB03363; BAA94793.1; -.
InterPro; IPR000822; -.
InterPro; IPR0009976; -.
Pfam; PF00096; zf-C2H2; 4.
Pfam; PF01055; WTl; 2.
                                                                                                                                                             Gallus gallus (Chicken).
Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
*~~~~~; Phasianidae; Phasianidae; Phasianidae; Phasianidae;
                                                                                                                                                                                                                   01-OCT-2000 (TrEMBLrel. 15, 01-OCT-2000 (TrEMBLrel. 15, 01-MAR-2001 (TrEMBLrel. 16, WT1(-KTS) PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS; PRO0049; WILMSTUMOUR.
PROSITE; PS00028; ZINC_FINGER_C2H2; 3.
SMART; SM00355; ZnE_C2H2; 1.
DNA-binding; Metal-binding; Zinc-finger.
NON_TER 392 392
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EMBL; X85731; CAA59736.1; -.
HSSP; P08046; LAIG.
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                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                           WT1 ( -KTS)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
              PRINTS;
                                                                                                        Kudo
                                                                                                                  TISSUE=OVARY;
                                                                                                                                                 NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000822; -.
InterPro; IPR000976; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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PR00049; WILMSTUMOUR.; PS00028; ZINC_FINGER_C2H2;
                                                                                                                                                                                                                                                                                                                                                                                7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                       392 AA;
                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PubMed=7478606;
                                                                                                                                                                                                                                                                                                                                                                                                                                         43869 MW;
                                                                                                                                                                                                                                                                                                                                                                                           78.4%;
77.8%;
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                                                                                                                                                                                                                             Created)
Last sequence update)
Last annotation update)
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Last sequence update)
Last annotation update)
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9.5;
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Best Local
                                                                          Brachydanio rerio (Zebrafish) (Zebra danio).
Eukaryota; Metazoa; Chordata; Craniata; Fettebrata; I
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
Cypriniformes; Cyprinidae; Rasborinae; Danio.
NCBI_TaxID=7955;
                                                                                                                            OSPUTT:
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAR-2001 (TrEMBLrel. 16, Last annotation update)
WILMS' TUMOR SUPPRESSOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA-binding; Metal-binding; Zinc-finger.
SEQUENCE 414 AA; 46641 MW; 17EB22F8B428A2EF
                                                                                                                                                                                                                                                                                                                                                                                       "Chicken counterpart of Wilms' tumor suppressor gene 1."
Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AB033634; BAA94794.1; -.
InterPro; IPR000822; -.
InterPro; IPR000822; -.
Pfam; PF0020976; -.
Pfam; PF00205; WT1; 2.
                     "Isolation and characterization rerio) WT-1.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q918A0;
            Submitted
                                         Smith S.I.,
                                                                                                                                                                                                                                                                                                                                             PRINTS; PR00049; WILMSTUMOUR.
PROSITE; PS00028; ZINC_FINGER.C2H2; 4.
DNA-binding; Metal-binding; Zinc-finger.
SEQUENCE 417 AA; 46957 MW; 47BBF7F6448E7F6C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gallus gallus (Chicken).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WT1(+KTS) PROTEIN.
                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kudo
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tted (APR-1999)
AF144550; AAF00
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                                                                                                                                                                                         PRELIMINARY;
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Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
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Last annotation update)
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           EMBL/GenBank/DDBJ databases
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                                Boyd A.W.;
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                                                                                                     091BF0;
01-OCT-2000 (TrEMBLrel. 1
01-OCT-2000 (TrEMBLrel. 1
01-MAR-2001 (TrEMBLrel. 1
WILMS' TUMOR PROTEIN.
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MEDLINE-9833770; PubMed-9665876;
Fraser C.M., Norris S.J., Weinstock G.M., White O., Sutton G.G.,
Dodson R., Gwinn M., Hickey E.K., Clayton R., Ketchum K.A.,
Sodergren E., Hardham J.M., McLeod M.P., Salzberg S., Petterson J.,
Khalak H., Richardson D., Howell J.K., Chidambaram M., Utterback T.,
McDonald L., Artiach P., Bowman C., Cotton M.D., Fujii C., Garland S.,
Hatch B., Horst K., Roberts K., Sandusky M., Weidman J., Smith H.O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             083076;
01-NOV-1998 (TrEMBLrel. 08, Created)
01-NOV-1998 (TrEMBLrel. 08, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
CONSERVED HYPOTHETICAL INTEGRAL MEMBRANE PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR000822; -.
InterPro; IPR000976; -.
Pfam; PF00096; zf-C2H2; 4.
Pfam; PF00096; wT1; 3.
Pfam; PF02165; wT1; 3.
PRINTS; PR00049; WILMSTUMOUR.
PROSITE; PS00028; ZINC_FINGER_C2H2; 4.
SMART; SM00355; ZnF_C2H2; 1.
DNA-binding; Metal-binding; Zinc-finger.
SEQUENCE 419 AA; 46925 MW; 606ADFEDA619EECD
       Angnilla japonica (Japanese eel).
Eukaryota; Metazoa; Chordata; Craniata;
Actinopterygii; Neopterygii; Teleostei;
                                                                                      EWT1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Science 281:375-388(1998).
EMBL; AE001118; AAC65028.1; -.
TIGR; TP0033; -
SEQUENCE 203 AA; 23998 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        spirochete.
Science 281
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NCBI_TaxID=160;
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Bacteria; Spirochaetales;
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Actinopterygii;
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spirochete.":
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity 6; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
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                                                                                                                                                                                                                                      PRELIMINARY;
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77.8%;
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16,
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                                                                                                                                   Last
Last
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          Vertebrata; Euto
Anguilliformes;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 419
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            Anguilloidei;
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Best Local S
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InterPro; IPR000976; -.
InterPro; IPR000976; -.
Pfam; PF00096; zf-C2H2; 4.
Pfam; PF02165; WT1; 2.
PRINTS; PR00049; WILMSTUMOUR.
PROSITE; PS00028; ZINC_FINGER_C2H2; 4.
SMART; SM00355; ZnF_C2H2; 1.
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NCBI_TaxID=7937;
[1]
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Q9W611;
01-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                             Nakayama Y., Yamamoto T., Matsuda Y., Abe S.I.;
"Cloning of cDNA for newt WT1 and the differential expression spermatogenesis of the Japanese newt, Cynops pyrrhogaster.";
Submitted (MAY-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AB013888; BAA76399.1; -.
HSSP; P08046; 1AAY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cynops pyrrhogaster (Japanese common newt).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Caudata; Salamandroidea; Salamandridae; Cyno
NCBI_TaxID-8330;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=20183686; PubMed=10717475;
Nakatsuru Y., Minami K., Yoshikawa A.,
Okamoto N., Nakamura Y., Ishikawa T.;
                                                                                                                                                                                                               DNA-binding; Metal-binding; Zinc-finger.
SEQUENCE 426 AA; 47590 MW; 46AOB158A9F79C6C CRC64;
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PROSITE; PS00028; ZINC_FINGER_C2H2; 4.
DNA-binding; Metal-binding; Zinc-finger.
SEQUENCE 392 AA; 43892 MW; DAELA84828F43DF6 CRC64;
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InterPro; IPR000976; -.
Pfam; PF00096; zf-C2H2; 4.
Pfam; PF02165; WT1; 2.
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Gene 245:245-251(2000)
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TISSUE=KIDNEY;
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116
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RMFSNGPYL
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7; Conserv
                                                                                              Conservative
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                                                                                                                      76.5%;
77.8%;
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77.8%;
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                                                                                                                                          Length 426;
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                                                                                                                         Federspiel N.A., Palm C.J., Conway A.B., Conn L., Hansen N.F., Altafi H., Nguyen M., Lam B., Southwick A., Miranda M., Brooks: Buehler E., Chao Q., Chin C., Chiou J., Choi E., Gonzalez A., Howng B., Johnson-Hopson C., Khan S., Kim C., Koo T., Lee J.M., Lenz C., Liu A., Liu S., Mukharsky N., Pham P., Sakano H., Shin: Toriumi M., Vaysberg M., Yu G., Ecker J., Theologis A., Davis R Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.
EMBL; AC021044; AAF98431.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Stover C.K., Pham X.-Q.T., Erwin A.L., Mizoguchi S.D., Warrener P., Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M. Garber R.L., Goltry L., Tolentino E., Westbrock-Wadman S., Yuan Y., Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M., Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T., Reizer J., Saier M.H., Hancock R.E.W., Lory S., Olson M.V.; "Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic pathogen."; Nature 406:959-964 (2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q9I4D6;
Q9I4D6;
                                                                                                                                                                                                                                                                                                                                       Arabidopsis thaliana (Mouse-ear cress).

Eukaryota; Viridiplantaė; Embryophyta; Tracheophyta; Spermatophyta;

Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II;

Brassicales; Brassicaceae; Arabidopsis.
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nes 6; Conserv
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                                  7; Conserv
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                                  Mismatches
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AMEDLINE=20196006; PubMed=10731132;

AMEDLINE=20196006; PubMed=10731132;

A Adams M.D., Celniker S.E., Holt R.W., Hoskins R.A., Galle R.F.,

A Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,

A George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,

Sutton G.G., Wortman J.R., Yandell M.D., Zhang O., Chen L.X.,

Sutton G.G., Wortman J.R., Yandell M.D., Zhang O., Chen L.X.,

Sutton G.G., Wortman J.R., Yandell M.D., Zhang O., Chen L.X.,

A Barandon R.C., Bogers Y. -H.C., Blazej R.G., Champe M., Pfeiffer B.D.,

A Maril J.F., Agbayani A., An H.-J., Andrews-PfannKoch C., Baldwin D.,

A Abril J.F., Agbayani A., An H.-J., Andrews-PfannKoch C., Baldwin D.,

A Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,

Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,

Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,

Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,

Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,

Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,

Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,

A de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
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Eukaryota; Euglenozoa;
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Neoptera; Endopterygota; Diptera;
n; Drosophilidae; Drosophila.
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RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Durbin K.J., Evangelista C.C., Ferriaz G., Ferriara S., Fleischmann W.,
RA Fosler C., Gabrielian A.E., Garg M.S., Gelbart W.M., Glasser K.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Gunn P., Harris M.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Linck J.,
RA Kimmel B.E., Kodira C.D., Kraft C.K., Kravitz S., Kulp D., Lai Z.,
Ra Liu X., Mattel B., McIntosh T.C., McLeod M.P., McCherson D.L.,
RA Kimmel B.E., Kodira C.D., Kraft C.K., Kravitz S., Kulp D., Lai Z.,
RA Liu X., Mattel B., McIntosh T.C., McLeod M.P., McCherson D.L.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Munt S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Nelson D.R., Nelson K.A., Nixon K., Nixon K.
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| | EMBL; X69716; CAA49373.1; TRANSFAC; T02352; InterPro; IPR00082; InterPro; IPR000976; InterPro; IPR000976; Pfam; PF000096; zf-C2H2; 4. PFNINTS; PR00048; ZINC_FINGER. PRINTS; PR00049; WILMSTUMOUR. PROSITE; PS00028; ZINC_FINGER_C2H2_1; 4. PROSITE; PS00049; WILMSTUMOUR. PROSITE; WILMSTUMOUR. P | This SWISS-PROT entry is copyright. It is produced through a collabor between the Swiss Institute of Bioinformatics and the EMBL outstat the European Bioinformatics Institute. There are no restrictions or use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for comme entities requires a license agreement (See http://www.isb-sib.ch/annc or send an email to license@isb-sib.ch). EMBL; X69716; CAA49373.1; InterPro; IPR000822; InterPro; IPR000982; InterPro; IPR000976; PFINTS; PR00048; ZINCFINGER. PRINTS; PR00048; ZINCFINGER. PRINTS; PR00048; ZINCFINGER. PRINTS; PR00048; ZINCFINGER_2H2_1; 4. Zinc-finger; Metal-binding; DNA-binding; Repeat; Nuclear protein; PR0SITE; PS00128; ZINC_FINGER_C2H2_2; 4. Zinc-finger; Metal-binding; DNA-binding; Repeat; Nuclear protein; Transcription regulation; Alternative splicing; Anti-oncogene. DOMAIN 322 437 ZINC_FINGER_C2H2_TYPE. ZN_FING 322 346 C2H2-TYPE. ZN_FING 322 346 C2H2-TYPE. ZN_FING 322 340 C2H2-TYPE. ZN_FING 323 340 C2H2-TYPE. ZN_FING 324 437 C2H2-TYPE. ZN_FING 325 376 C2H2-TYPE. ZN_FING 327 C349 265 MISSING (IN ISOFORM 2 AND ISOFORM 3). | SEQUENCE FROM N.A. STRAIN-SPRAGUE-DAWLEY; TISSUE-Kidney; STRAIN-SPRAGUE-DAWLEY; TISSUE-Kidney; MEDLINE-3046155; PubMed-1330293; NOTECOMERCE FROM N. Yang X., Bowman M., Roberts V., Sukumar S.; Sharma P.M., Yang X., Bowman M., Roberts V., Sukumar S.; Nolecular cloning of rat Wilms' tumor complementary DNA and a study of messenger RNA expression in the urogenital system and the brain.*; Cancer Res. 52:6407-6412(1992) | Ol-CCT-1996 (Rel. 34, Created) Ol-CCT-1996 (Rel. 34, Last sequence update) Ol-CCT-1996 (Rel. 34, Last sequence update) Ol-CCT-1996 (Rel. 34, Last sequence update) Ol-CCT-1906 (Rel. 34, Last sequence update) Ol-CCT-1906 (Rel. 34, Last sequence update) VILMS' TUMOR PROTEIN HOMOLOG. WT1 OR WT-1 Rattus norvegicus (Rat). Rat | ALIGNMENTS STANDARD; PRT; 448 AA. H71_RAT H71 |

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=90150277; PubMed=2154335; Call K.M., Glaser T., Ito C.Y., B Haber D.A., Rose E.A., Kral A., Y
       MEDLINE=92005721; PubMed=1655284; Pelletier J., Bruening W., Kashtan Striegel J.E., Houghton D.C., Junie
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MEDLINE=92279213; P
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"Alternative splicing
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Mammalia; Eutheria;
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MEDLINE-94004972; PubMed-8401592;
Park S., Schalling M., Bernard A., Maheswaran S., ?
Roberts D., Fletcher J., Shipman R., Rheinwald J.,
Griffin J., Minden M., Housman D.E., Haber D.A.;
"The Wilms tumour gene WTl is expressed in murine n
tissues and mutated in a human mesothelioma.";
Nat. Genet. 4:415-420(1993).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Schumacher V., Schneider S., Figge A., Wildhardt G., Harms D., Schmidt D., Weirich A., Ludwig R., Royer-pkora B.; "Correlation of germ-line mutations and two-hit inactivation o WTI gene with Wilms tumors of stromal-predominant histology."; proc. Natl. Acad. Sci. U.S.A. 94:3972-3977(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hastie N., van Heyningen V.;
"Evidence that WT1 mutations in De
in a dominant regative fashion.";
Hum. Mol. Genet. 2:259-264(1993).
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FUNCTION: POTENTIAL ROLE IN TRANSCRIPTIONAL REGULATION. REC
AND BINDS TO THE DNA SEQUENCE 5'-CGCCCCCC-3'.

SUBCELLULAR LOCATION: NUCLEAR.

ALTERNATIVE PRODUCTS: TWO ALTERNATIVE SPLICE SITES EXISTS.

TISSUE SPECIFICITY: EXPRESSED IN THE KIDNEY AND A SUBSET OF
HEMATOPOIETIC CELLS.

DISEASE: WILM'S TUMOR (WT) IS AN EMBRYONAL MALIGNANCY OF TH
KIDNEY THAT AFFECTS APPROXIMATELY 1 IN 10,000 INFANTS AND N
CHILDREN. IT OCCURS BOTH IN SPORADIC AND HEREDITARY FORMS.

INACTIVATION OF WT1 IS ONE OF THE CAUSES OF WILM'S TUMOR.

DISEASE: PATIENTS WITH DENYS-DRASH SYNDROME (DDS), WHICH IS
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                                                                                                                                                                                                                                                                                                                                                                                                                           .A., Buckler A.J.;novel tumor suppressor gene inactivated in Wilms'1. 4:97-106(1992).
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Pfam; PP00096; zf-C2H2; 4.
PRINTS; PR00048; ZINCFINGER.
PRINTS; PR00049; WILMSTUMOUR.
PROSITE; PS00028; ZINC_FINGER_C2H2_1; 4.
PROSITE; PS00157; ZINC_FINGER_C2H2_2; 4.
PROSITE; PS00157; ZINC_FINGER_C2H2_3; 4.
PROSITE; PS00157; ZINC_FINGER_C2H2_3; 4.
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EMBL; M80220; AAA61299.1; J
EMBL; M80220; AAA61299.1; J
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EMBL; M80229; AAA61299.1; J
EMBL; M80231; AAA61299.1; J
EMBL; M80231; AAA61299.1; J
EMBL; M80231; AAA61299.1; J
EMBL; M30393; AAA673810.1; -
PIR; A34673; A34673
PIR; S08273; S08273.
FRANSFAC; T00899; -
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MIM; 194080;
MIM; 256370;
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DISEASE: DEFECTS IN WT1 ARE ALSO A CAUSE OF DIFFUSE MESANGIAL SCLEROSIS (DMS), A FORM A DDS.
SIMILARITY: BELONGS TO THE EGR FAMILY OF C2H2-TYPE ZINC-FINGER
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DATABASE: NAME=WT1; NOTE=WT1 mutation database;
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similarity
9; Conserv
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llarity 100.0%;
Conservative
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/FTId=VAR_007745.

R -> H (IN DDS).

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C -> Y (IN DDS).

/FTId=VAR_007743.

C -> G (IN DDS).

/FTId=VAR_007744.
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C2H2-TYPE.
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Pred. No.
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S -> N (IN WT).
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G_-> A (IN WT)
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splicing; Anti-oncogene;
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PROSITE; PS50157; ZINC_FINGER_C2H2_2; 4.
Zinc-finger; Metal-binding; DNA-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PIR; A39692; A39692.
TRANSFAC; T02351; -.
MGD; MGI:98968; Wt1.
InterPro; IPR000822; -.
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"Isolation, characterization, and expression of the murine Wilms'
tumor gene (WT1) during kidney development.";

MO1. Cell. Biol. 11:1707-7172(1991).

"I- FUNCTION: POTENTIAL ROLE IN TRANSCRIPTIONAL REGULATION. RECOGNIZES
AND BINDS TO THE DNA SEQUENCE 5'-CGCCCCCGC-3'.

"I- SUBCELLULAR LOCATION: NUCLEAR.

"I- ALTERNATIVE PRODUCTS: TWO ALTERNATIVE SPLICE SITES EXISTS.

"I- TISSUE SPECIFICITY: KIDNEY.

"I- TISSUE SPECIFICITY: KIDNEY.
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P22561;
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PRINTS; PR00048; ZINCFINGER.
PRINTS; PR00049; WILMSTUMOUR.
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                                                                                                                                                                                                                                                                                                          Transcription
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse
Eukaryota; Metazoa;
                                                                                                                                                                          ZN_FING
                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WT1 OR WT-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WILMS'
                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       126 RMFPNAPYL 134
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEVELOPMENTAL STAGE: EXPRESSED SIMILARITY: BELONGS TO THE EGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RMFPNAPYL
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-2000 (Rel. 40, Last annotation updat
TUMOR PROTEIN HOMOLOG.
Similarity
9; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR000976;
                                                                                                           408
449
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(Rel. 19,
(Rel. 40,
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323
323
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383
414
250
  Conservative
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etazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                        regulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
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                                                                                                                                                                                                                                                                                                   Alternative splicing; Anti-oncogene.
  0;
                                                                                                                                                                                                               ZINC FINGERS.
C2H2-TYPE.
C2H2-TYPE.
                                                                                                        MISSING (IN ISOFORM 2 AND MISSING (IN ISOFORM 2 AND; 962381E9C8D7A380 CRC64;
                      Score 51;
Pred. No.
                                                                                                                                                                          C2H2-TYPE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
  Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     update)
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                                           DB 1;
                                                                                                                                                                                                                                                                                                                            Repeat; Nuclear protein;
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                      02;
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  0,
                                         Length 449;
  Indels
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ISOFORM
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Matches 9
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15-DEC-1998
15-DEC-1998
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                         ZN_FING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR00082; ...
InterPro; IPR000976; ...
Pfam; PF00096; zf-C2H2; 4.
PRINTS; PR00048; ZINCFINGER.
PRINTS; PR00049; WILMSTUMOUR.
                                                                                                                                                                                                                                                                                                 ZN_FING
                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE; PS00028; ZINC_FINGER_C2H2_1; 4.

PROSITE; PS50157; ZINC_FINGER_C2H2_2; 4.

Zinc-finger; Metal-binding; DNA-binding; Repeat; Nuclear prote
Transcription_regulation; Alternative splicing; Anti-oncogene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=LWD; TISSUE-Kidney;
MEDLINE-98267201; PubMed-9602131;
Tsurutani N., Oda H., Nakatsuru Y
                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                    VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Mammalia; Eutheria;
  126
                                                                                                                                                                                                                                                                                VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION: POTENTIAL ROLE IN TRANSCRIPTIONAL REGULATION. RECOGN:
AND BINDS TO THE DNA SEQUENCE 5'-CGCCCCCGC-3'.
SUBCELLULAR LOCATION: NUCLEAR.
ALTERNATIVE PRODUCTS: TWO ALTERNATIVE SPLICE SITES EXISTS.
DEVELOPMENTAL STAGE: EXPRESSED DURING KIDNEY DEVELOPMENT.
SIMILARITY: BELONGS TO THE EGR FAMILY OF C2H2-TYPE ZINC-FINGER
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                                         RMFPNAPYL
RMFPNAPYL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       37, Last sequence up 40, Last annotation
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                                                                                                                                                                                      MISSING (IN ISOFORM 2 AND I SIMILARITY).
MISSING (IN ISOFORM 2 AND I SIMILARITY).
SIMILARITY).
GY 9C3E557B96F5A7B3 CRC64;
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                                                                                                                                                                                                                                                                                           ZINC FINGERS.
C2H2-TYPE.
C2H2-TYPE.
C2H2-TYPE.
C2H2-TYPE.
C2H2-TYPE.
                                                                                                    Score 51;
Pred. No.
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                                                                                 Mismatches
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                                                                                                                          Length 449
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                                                                                 Indels
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Sus.
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RESULT 6
IFT2_CRILO
ID IFT2_C
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YFIO_H
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Best Local S
Matches 6
IFT2_CRILO
Q60462;
01-NOV-1997
01-NOV-1997
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P44553;
01-NOV-1995
01-NOV-1995
01-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.F., Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.M., McKenney K., Sutton G., Fitzbugh W., Fields C.A., Gocayne J.D., Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M., Weidman J.F., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D., Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R.C., Fine L.D., Fritchman J.L., Fuhrmann J.L., Geoghagen N.S.M., Gnehm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O.,
                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restructe by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Langen H., Takacs B., Evers S., Berndt P., Lahm H.W., Wipf B., Gray C., Fountoulakis M.; "Two-dimensional map of the proteome of Haemophilus influenzae."; Electrophoresis 21:411-429(2000).
-I- SUBCELLULAR LOCATION: ATTACHED TO THE MEMBRANE BY A LIPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence up
01-OCT-2000 (Rel. 40, Last annotation
PUTATIVE LIPOPROTEIN HI0177 PRECURSOR.
                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                SIGNAL
                                                                                                                                                                                                                                                                                                            EMBL; U32703; AAC21847.1; -. TIGR; HI0177; -.
                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Haemophilus.
NCBI_TaxID=727;
                                                                                                                                                                                                                                                                   CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ANCHOR (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE COML FAMILY OF LIPOPROTEINS. STRONG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Science
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=RD / KW20 / ATCC 51907;
MEDLINE=95350630; PubMed=7542800;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                        LIPID
                                                                                                                                                                                                                                                                                              Membrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=20137488;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Whole-genome random sequencing and assembly influenzae Rd.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Venter J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacteria;
                                                                                                              151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IDENTIFICATION BY MASS SPECTROMETRY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     influenzae
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                                                                                                                                         1 RMFPNAPY 8
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RVFPNSPY 158
                                                                                                                                                                   Similarity
6; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E.COLI YFIO.
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                                                                                                                                                                                                                                                                                   Lipoprotein; Signal,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Proteobacteria;
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                                                                                                                                                                                                                                         262
                                                                                                                                                                      Conservative
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19
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                                          STANDARD;
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29347 MW;
                                                                                                                                                                                78.4%;
75.0%;
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                                                                                                                                                                   Score
Pred.
2; Mis
                                                                                                                                                                                                                                   POTENTIAL.

PUTATIVE LIPOPROTEIN HI0177

PUTATIVE LIPOPROTEIN HI0177

N-ACYL DIGLYCERIDE (POTENTI.)

DD9FFFE568D2B7B CRC64;
                                                                                                                                                                    Mismatches
                                                                                                                                                                                   NO.
                                                                                                                                                                                               40;
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                                          468
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                                                                                                                                                                                                DB 1;
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(Rel.

35, Created) 35, Last seq

sequence

30-MAY-2000 (Rel.

39,

39, Last annotation update)
PROTEIN WITH TETRATRICOPEPTIDE REPEATS
D 54 KDA PROTEIN) (IFI-54K) (CL-54 K).

N

(IFIT-2)

(INTERFERON-INDUCED 54 INTERFERON-INDUCED

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Matches
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Q01630;
Q1-JUL-1993
                                                                                                                                                                           CAEEL
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MEDLINE-94170787; PubMed-8125096;
Bluyssen J.A.R., Vlietstra R.J., van der Made A., Trapman J.;
"The interferon-stimulated gene 54 K promoter contains two adjace functional interferon-stimulated response elements of different strength, which act synergistically for maximal interferon-alpha inducibility.";
           STRAIN-BRISTOL N2;
MEDLINE-93106371;
                                                    Eukaryota; Metazoa; Nematoda; Rhabditidae; Peloderinae; Caer NCBI_TaxID=6239;
                                                                                   Caenorhabditis elegans.
                                                                                                                    01-JUL-1993
30-MAY-2000
                                                                                                                                                                                                                                                                                                                                        REPEAT
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REPEAT
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                                SEQUENCE FROM N.A.
                                                                                                  UNC-33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
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SIMILARITY: BELONGS TO THE IFIT FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     J. Biochem. 220:395-402(1994).
                                                                                                           PROTEIN
 Herman R.K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               s requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                6; Conser
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PubMed=1468626; ., Shaw J.E.;
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Last annotation updat
                                                                                                                                           Created)
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Caenorhabditis.
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EMBL; Z14148; CAA78521.1; -.
EMBL; Z14148; CAA78522.1; -.
EMBL; Z14146; CAA78517.1; -.
EMBL; Z14146; CAA78517.1; -.
EMBL; Z14146; CAA78518.1; -.
EMBL; Z4446; CAA78518.1; -.
EMBL; Z4644; S24644.
PIR; S24644; S24644.
PIR; S33558; S33558.
InterPro; IPR002195; -.
                                                                                                                                                                                                                                                       BIRI_HUMAN STANDARD; PRT; 1403 AA.
Q13075; Q13730; Q99796; Q75857;
Q1-NOV-1997 (Rel. 35, Created)
Q1-OCT-2000 (Rel. 40, Last sequence update)
Q1-OCT-2000 (Rel. 40, Last annotation update)
BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1 (NEURONAL APOPTOSIS INHIBITORY PROTEIN).
                                   MEDLINE-9511334; pubMed-7813013;
ROY N., Mahadevan M.S., McLean M., Shutler G., Yaraghi Z.,
Farahini R., Baird S., Besner-Johnston A., Lefebvre C., Kang X.,
Salih M., Aubry H., Tamai K., Guan X., Ioannou P., Crawford T.O.,
de Jong P.J., Surh L., Ikeda J., Korneluk R.G., Mackenzie A.;
"The gene for neuronal apoptosis inhibitory protein is partially
deleted in individuals with spinal muscular atrophy.";
cell 80:167-178(1995).
TISSUE=Brain;
                                                                                                                                                                  SEQUENCE FROM N.A
                                                                                                                                                                                                                                      Homo sapiens (Human)
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Genetics 132:675-689(1992)
           SEQUENCE FROM
                                                                                                                                                                                            NCBI_TaxID=9606;
                                                                                                                                                                                                            Mammalia; Eutheria;
                                                                                                                                                                                                                           Eukaryota; Metazoa;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ween the Swiss Institute of Bioinf
European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WITHIN NEURONAL PROCESSES AFTER EARLY EMBRYOGENESIS. SIMILARITY: BELONGS TO THE DEHYDROPYRIMIDINASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEVELOPMENTAL STAGE: UNC-33 PROTEINS ARE DISTRIBUTED WITHIN NEURONAL PROCESSES AFTER EARLY EMBRYOGENESIS.
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                                                                                                                                                      brain;
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Primates;
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             AND REVISIONS
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MISSING (IN 55.5 KDA ISOFORM).
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                                                                                                                                                                                                                                              EMBL;
                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collable between the Swiss Institute of Bioinformatics and the EMBL outsit the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for considering the statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Farahani R., McLean M., Ik "Suppression of apoptosis family of IAP genes."; Nature 379:349-353(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF 222-1403
Jones K., Graves T.,
Submitted (JUN-1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       atrophy candidate genes (Genomics 48:121-127(1998)
                                                     SEQUENCE
                                                                                                                                                                  PROSITE; PS01282; BIR_REPEAT_1; PROSITE; PS50143; BIR_REPEAT_2;
                                                                                                                                                                                                                                                                             entities requires a license agreement or send an email to license@isb-sib.ch
                                                                                                                                   REPEAT
                                                                                                                                             Apoptosis;
REPEAT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-96149249; PubMed=8552191;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Sequence of a 131-kb region of atrophy candidate genes SMN and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MacKenzie A.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=98163755; PubMed=9503025; Chen Q., Baird S.D., Mahadevan M.
                                                                                                                                                                                                    InterPro; IPR001370;
                                                                                                                                                                                                                                                                                                                                                                                                   DISEASE: MUTATED OR DELETED FORMS OF NAIP HAVE BEEN FOUND IN INDIVIDUALS WITH SPINAL MUSCULAR ATROPHY TYPE I (SMA TYPE 1). SM ARE FATAL AUTOSOMAL RECESSIVE DISORDERS SUBCLASSIFIED AS TYPE 1 (WERDNIG-HOFFMANN DISEASE), TYPE II (INTERMEDIATE FORM), AND TYP III (WOHLFART-KUGELBERG-WELANDER DISEASE) BASED UPON THE AGE OF ONSET AND CLINICAL SEVERITY. THESE NEUROBECENERATIVE DISORDERS OF CHARACTERIZED BY DEGENERATION OF LOWER MOTOR NEURONS, LEADING TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE SPECIFICITY: EXPI
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U80017; AAC52047.1;
U21913; AAA64504.1;
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n M., Ikeda J., Mackenzie A.,
optosis in mammalian cells by
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to the EMBL/GenBank/DDBJ
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BIR 2.

BIR 3.

PK -> YR (IN REF. 4).

PK -> ST (IN REF. 3).

M -> V (IN REF. 3).

Y -> H (IN REF. 3).

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P09488;
01-MAR-1989
01-FEB-1991
01-OCT-2000
                                                                                                                                                                                                                                                        Nucleic [5]
                                                                                                                                                                                                                                                                                                                             MEDLINE-93228631; PubMed-8471052;
Zhong S., Spurr N.K., Hayes J.D., Wolf C.R.;
"Deduced amino acid sequence, gene structure and chromosomal location of a novel human class Mu glutathione S-transferase, GSTM4.";
Biochem. J. 291:41-50(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                               Seidegaard J., Vorachek W.R., Pero R.W., I
"Hereditary differences in the expression
transferase active on trans-stilbene oxide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           _HUMAN
two-dimensional Electrophoresis [8]
                                                                                                                       Alin
                                                                                                                                                                                      common
                                                                                                                                                                                                                                                                 MEDIINE-90301515; PubMed-2362832;
Comstock K.E., Sanderson B.J.S., Claflin G.,
"GST1 gene deletion determined by polymerase
Nucleic Acids Res. 18:3670-3670(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dejong J.L., Chang C.M., Whang Peng J., Knu "The human liver glutathione S-transferase expression and chromosome mapping of an Hb Nucleic Acids Res. 16:8541-8554(1988).
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Mammalia; Eutheria;
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GSTM1 OR GST1
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Warholm M., Joernvall H.;
                                                                                                                                                                                                                                                                                                              SEQUENCE OF 59-117 FROM N.A
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MEDLINE=89017184; PubMed=3174634;
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MEDLINE=88335606; PubMed=3419925;
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                                             Hubbard
                                                       TISSUE=Liver;
                                                                  SEQUENCE
                                                                                                  transferase
                                                                                                                                  MEDLINE=85154554; PubMed=3979555;
                                                                                                                                             SEQUENCE OF 1-23
                                                                                                                                                                                                  "Identification of three classes
                                                                                                                                                                                                                                           SEQUENCE OF 1-23.
                                                                                                                                                                                                                                                                                                                                                                                                                         deletion.";
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                                "Human ERp29: Isolation,
                                                                                     Alin P., Mannervik B., Joernvall H.;
"Structural evidence for three diffe
transferase in human tissues.";
FBBS Lett. 182:319-322(1985).
                                                                                                                                                                                                                                 MEDLINE=86042634; PubMed=3864155;
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                                                                                                                                                                     (GSTM1A-1A) (GSTM1B-1B) (GST CLASS-MU).
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(Rel. 40, Last annotation update)
S-TRANSFERASE MU 1 (EC 2.5.1.18)
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           gel mapping.";
21:3785-3796(2000)
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Primates;
                                                                  MASS
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                               primary structural
                                                                  SPECTROMETRY
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                                                                                                                                                                 82:7202-7206(1985)
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on of the human
ide are due to a
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i; Hominidae;
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                                                                                                           types
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gene superfamily:
subunit cDNA.";
                                 characterisation
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Best Local
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EMBL; J03817; AAA59203.1; -
EMBL; X58676; CAA38636.1; -
EMBL; X51451; CAA35817.1; -
PIR; S01719; S01719.
PIR; B22457, B22457.
PIR; E24735; E24735.
                                                                                                                            01-JUL-1989
01-JUL-1989
15-DEC-1998
GLUTATHIONE
                                                                                                                                                                                                                                                                                                                                                 CONFLICT
SEQUENCE
                                                       Eukaryota; Metazoa; Mammalia; Eutheria; NCBI_TaxID=10090;
                                                                                                                                                                                                  MOUSE
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"Functions of His107 in the catalytic mechanism of human gl.
"Functions of His107 in the catalytic mechanism of human gl.
"Functions of His107 in the catalytic mechanism of human gl.
"Functions of History 38:1193-1202(1999).

OF EXOCENOUS AND ENDOGENOUS HYDROPHOBIC ELECTROPHILES.
 Pearson W.R., Rei
"Tissue-specific
                      SEQUENCE FROM N.A. MEDLINE=88330838; PubMed=3417659;
                                                                                        Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                              Transferase; Multigene
                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00043; GST; 1.
PRINTS; PR01267; GSTRNSFRASEM.
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-i- TISSUE SPECIFICITY: THIS IS A LIV-
-i- POLYMORPHISM: THERE ARE TWO ALLEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro;
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217 1
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S-TRANSFERASE GT8.7 (EC 2.5.1.18)
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 Reinhart J., Sisk S.C., fic induction of murine
                                                                                                                                                                                                                                                                                                                                                  AA;
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                                                                    Chordata;
Rodentia;
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25580
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85.7%;
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S -> T (TN TOTAL)
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                                                                 Craniata; Ver
Sciurognathi;
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glutathione
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thi; Muridae; Murinae; Mus
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GSTRNSFRASEM

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PIR: A20831; A20831.

PIR: A28946; A28946.

PIR: I24735; I24735.

PIR: A3419; A34159.

PIR: A3419; A34159.

PIR: S38860; S38860.

HSSP; P04905; 6GSY;

SWISS-2DPAGE; P10649; MGD; MGI:95860; GStml.

InterPro; IPRO00521; -..

InterPro; IPRO00521; -..

Pfam; PF00043; GST; 1.
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EMBL;
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"Purification, mass spectrometric characterization, modification of murine glutathione S-transferases.",
Chem. Res. Toxicol. 8:1054-1062(1995).
                                                                                                                                                                                                                                                                                                                                                       use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entitles requires a license agreement (See http://www.isborsend an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=CD-1; TISSUE=Liver; MEDLINE=96189427; PubMed=8605288;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      *Identification of three classes of common to several mammalian species:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "The structure of two murine class-mu glutathione transferase genes coordinately induced by butylated hydroxyanisole."; Arch. Biochem. Biophys. 303:383-393(1993).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Townsend A.J., Goldsmith M.E., Pickett C.B., Cowan R "Isolation, characterization, and expression in Esch two murine Mu class glutathione Stransferase cDNAs rat subunits 3 (Ybl) and 4 (Yb2).", J. Biol. Chem. 264:21582-21590(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CHARACTERIZATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mannervik B., Alin P., Gu
Warholm M., Joernvall H.;
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J. Biol. Chem. 263:13324-13332(1988).
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MASS SPECTROMETRY: MW=25838.4; MW_ERR=2; METHOD=ELECTROSPRAY.

SIMILARITY: BELONGS TO THE GST SUPERFAMILY. MU FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FUNCTION: CONJUGATION OF REDUCED GLUTATHIONE TO A OF EXOGENOUS AND ENDOGENOUS HYDROPHOBIC ELECTROPHICATALYTIC ACTIVITY: RX + GLUTATHIONE = HX + R-S-GI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBUNIT: HOMODIMER.
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J04632; AAA37705.1; -.
L13448; -; NOT_ANNOTAT
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MUTAGENESIS OF CYS-86.
MEDLINE-91354218; PubMed=1883338;
Hsieh J.-C., Huang S.-C., Chen W.-L.,
"Cysteine-86 is not needed for the enz
transferase 3-3.";
                                                                                                                                                                                                                                                                                     Chang C., Saltzman A.G., Sorensen N.S., Hiipa "Identification of glutathione S-transferase androgen-repressed mRNA by cDNA cloning and s J. Biol. Chem. 262:11901-11903(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. (CLONE PGTA/C44).
MEDLINE-86033768; PubMed-3840477;
Ding G.J.-F., Lu A.Y.H., Pickett C.B.;
"Rat liver glutathione S-transferases. Nuc
of a Yb1 cDNA clone and prediction of the
sequence of the Yb1 submit.";
J. Biol. Chem. 260:13268-13271(1985).
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MEDLINE-93277499; PubMed-8503873;
                                                                                                                      purification, molecular properties Biochem. J. 292:379-384(1993).
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"Glutathione S-transferases in r
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the mu gene class. Structural analysis of the binary
isoenzyme 3-3 and glutathione at 2.2-A resolution.";
Biochemistry 31:10169-10184(1992).
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Fu J.-H., ROSe J., Tam M.F., Wang B.-C.;
New crystal forms of a mu-class glutathione
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SUBCELLULAR CATION: CYTOPLASMIC.
MISCELLAROUS: RAT LIVER GLUTATHIONE S-TRANSFERASES (GST) CON:
OF BINARY COMBINATIONS OF THREE MAJOR CLASSES OF SUBUNITS
DESIGNATED: YA (25 KDA), YB (27 KDA) AND YC (28 KDA).
MISCELLARBOUS: YB SUBCLASS SELECTIVELY BINDS STEROID HORMONES.
SIMILARITY: BELONGS TO THE GST SUPERFAMILY. MU FAMILY.
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"Crystal structure of human class mu glutathione transferase GSTM2-2. Effects of lattice packing on conformational heterogeneity."; J. Mol. Biol. 238:815-832(1994).
-i- FUNCTION: CONJUGATION OF REDUCED GLUTATHIONE TO A WIDE NUMBER OF EXOGENOUS AND ENDOGENOUS HYDROPHOBIC ELECTROPHILES.
                                                                                              SEQUENCE FROM N.A.

MEDLINE=91239584; PubMed=2034681;

Vorachek W.R., Pearson W.R., Rule G.S.;

"Cloning, expression, and characterization of a class-mu glutathione transferase from human muscle, the product of the GST4 locus.";

Proc. Natl. Acad. Sci. U.S.A. 88:4443-4447(1991).
                                                                                                                                                                    Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID-9606;
                                                 Raghunathan S., Chandross R.J., Penington C.J., Rule G.S.;
                                                                   MEDLINE=94238693; PubMed=8182750;
                                                                             X-RAY CRYSTALLOGRAPHY (1.85 ANGSTROMS).
                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                    (Rel. 25, Created)
(Rel. 25, Last sequence update)
(Rel. 40, Last annotation update)
S-TRANSFERASE MU 2 (EC 2.5.1.18)
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S -> NC (IN REF. 2).
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PDB; 1
PDB; 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro; IPR003081; -
Pfam; PF00043; GST; 1.
PRINTS; PR01267; GSTRN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -:- CATALYTIC ACTIVITY: RX + GLUTATHIONE = HX + R-S-GLUTATHIONE
-:- SUBURNIT: HOWODIMER.
-:- SUBCELLULAR LOCATION: CYTOPLASMIC.
-:- TISSUE SPECIFICITY: THIS IS A MUSCLE ISOZYME.
-:- SIMILARITY: BELONGS TO THE GST SUPERFAMILY. MU FAMILY.
                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MIM:
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         56 FPNLPYL
                    3 FPNAPYL 9
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R; A39375; A39375.
R; 11NB; 31-JAN-94.
B; 11NB; 31-JAN-94.
B; 11NC; 31-JAN-94.
B; 2GTU; 02-MAR-99.
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                                               Similarity 6; Conser
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85.7%;
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                                               Score 36; DB 1
Pred. No. 6.4;
0; Mismatches
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                                                                  Length 217;
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RESULT 12 GTM2_HUMAN

01-APR-1993 01-APR-1993 01-OCT-2000 GLUTATHIONE

P28161; GTM2_HUMAN

GSTM2 OR GST4.

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56 FPNLPYL 62

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FPNAPYL 9 6;

Query Match Best Local S Matches 6

SEQUENCE

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RESULT 13
GTM2_MOUSE
ID GTM2_M
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J. Biol. Chem. 264:21582-21590(1989).
-i- FUNCTION: CONJUGATION OF REDUCED GLUTATHIONE TO A W. OF EXOGENOUS AND ENDOGENOUS HYDROPHOBIC ELECTROPHILL OF SUBUNIT: HOMODIMER.
-i- SUBUNIT: HOMODIMER.
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01-AUG-1988
01-AUG-1988
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GLUTATHIONE
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MGD; MGI:95861; GStm2.
InterPro; IPR003081; -.
InterPro; IPR003081; -.
Pfam; PF00043; GST; 1.
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01-APR-1990
01-APR-1990
15-JUL-1999
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mammalia; Eutheria; Rodentia; NCBI_TaxID=10116;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Transferase: Multigene family. INIT_MET 0 0
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Mammalia; Eutheria;
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(Rel. 14, Last sequence update)
(Rel. 38, Last annotation update)
S-TRANSFERASE 5 (EC 2.5.1.18) (GST
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                                                                   Sciurognathi;
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                                                                                            Vertebrata; Euteleostomi,
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HX + R-S-GLUTATHIONE.
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THE REAL PROPERTY OF THE PROPE
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EMBL; M13590; AAA42351 1; -.
EMBL; J03914; AAA41296 1; -.
PIR; A25386; XURTG4.
PIR; A25386; XURTG4.
PIR; B26187; B26187.
PIR; B26187; B26187.
HSSP; P04905; 6GSU.
                                            Pfam; PF00043; GST;
PRINTS; PR01267; GST
                                                                                                                                                                                                                                                                                                                                                                    modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Biochem. J. 292:379-384(1993).
-i- FUNCTION: CONJUGATION OF REDUCED GLUTATHIONE TO A WIDE NUMBER
OF EXOGENOUS AND ENDOGENOUS HYDROPHOBIC ELECTROPHILES.
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Transferase;
INIT_MET
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"Glutathione S-transferases in
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STRAIN-WISTAR; T:
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MEDLINE-86192461; Pub
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUBUNIT: HOMODIMER OR HETERODIMER.
SUBCELLAUGAR LOCATION: CYTOPLASMIC.
MISCELLAUGUS: RAT LIVER GLUTATHIONE S-TRANSFERASES (GST) CONS
OF BINARY COMBINATIONS OF THREE MAJOR CLASSES OF SUBUNITS
DESIGNATED: YA (25 KDA), YB (27 KDA) AND YC (28 KDA).
MISCELLANDEUS: YB SUBCLASS SELECTIVELY BINDS STEROID HORMONES.
SIMILARITY: BELONGS TO THE GST SUPERFAMILY. MU FAMILY.
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expression of rat glutathione S-transferases. Evidence for gene
rsion in the evolution of the Yb multigene family.";
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IPR003081; -.
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                      family;
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ties and odorant biotransformation.";
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and Yb2 mRNAs by
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RESULT 15
GTM3_MOUSE
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                                           EMBL; J03953; AAA37748.1; A
PIR; B20831, B20831.
PIR; B2946; B28946.
PIR; E37520; E37520.
HSSP; P04905; 6GST.
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01-FEB-1991
01-FEB-1991
15-JUL-1999
                                                                                                                                                                                                                                                               data and enzymatic properties.";

Proc. Natl. Acad. Sci. U.S.A. 82:7202-7206(1985).

-i- FUNCTION: CONJUGATION OF REDUCED GLUTATHIONE TO A WIDE NUMBER OF EXOGENOUS AND ENDOGENOUS HYDROPHOBIC ELECTROPHILES.

-I- CAPALYTIC ACTIVITY: RX + GLUTATHIONE - HX + R-S-GLUTATHIONE.

-I- SUBGULIT: HOMODIMER.

-I- SUBGULLULAR LOCATION: CYTOPLASMIC.

-I- SIMILARITY: BELONGS TO THE GST SUPERFAMILY. MU FAMILY.
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SEQUENCE
                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation—the European Bioinformatics Institute: There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Mus musculus (Mouse).
Mus mvota; Metazoa; Chordata;
heria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                    Mannervik B., Alin P., Guthenberg C., Jensson H., Tahir M.K., Warholm M., Joernvall H.; "Identification of three classes of cytosolic glutathione transferase common to several mammalian species: correlation between structural
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pearson W.R., Windle J.J., Morrow J.F., Benson A.M., Talalay P., "Increased synthesis of glutathione S-transferases in response to anticarcinogenic antioxidants. Cloning and measurement of messenge
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pearson W.R., Reinhart J., Sisk S.C., Anderson K.S., Adler P.N.; "Tissue-specific induction of murine glutathione transferase mRNAs butylated hydroxyanisole."; J. Biol. Chem. 263:13324-13332(1988).
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MEDLINE=86042634; PubMed=3864155;
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                              MGD; MGI:106026;
                 InterPro;
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IPR000521; -. IPR003081; -.
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(Rel. 38, Last annotation update)
S-TRANSFERASE GT9.3 (EC 2.5.1.18)
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BELONGS TO THE GST SUPERFAMILY. MU FAMILY.
                              Gstm3.
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; 25571 MW;
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85.7%;
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F27B3D5831FF789F CRC64;
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           Transferase; Multigene family. INIT_MET 0 0
SEQUENCE
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PRINTS; PR01267; GSTRNSFRASEM.
217 AA; 25570 MW;
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Matches 6
3 FPNAPYL
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